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SURFACE WAVES IN MULTILAYERED ELASTIC MEDIA. PART II. HIGHER MODE SPECTRA AND SPECTRAL RATIOS FROM POINT SOURCES IN PLANE LAYERED EARTH MODELS

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ABSTRACT

Phase and amplitude spectra of Rayleigh and Love waves are presented for two Earth models, one oceanic and one continental shield. The spectra of the first three Rayleigh modes and the first four Love modes are tabulated for point sources at selected depths. These tables along with computer algorithms described here allow one to estimate the amplitude spectra at nontabulated source depths.

The use of spectral ratios as a means of determining source depth is investigated. A source depth of 20 km is obtained for the Fallon earthquake of July 20 1962. This depth agrees with previous estimates but the technique requires a fault-plane orientation which differs from radiation pattern solutions.

Introduction

Phase and amplitude spectra for the fundamental and the first two higher modes of Rayleigh waves and for the fundamental and the first three higher modes of Love waves are presented in this paper at selected source or receiver depths for two Earth models, one oceanic and one continental shield.

The amplitudes are tabulated in a form which can be used to calculate the surface-wave spectra for any point source at that depth. The spectra for intermediate source depths can be interpolated from the tables using a simple computer program.

The theory and computer algorithms used in calculating the tables are given along with the long- and short-period asymptotes.

Theoretical surface-wave spectra have been useful in source mechanism studies involving amplitude equilization and radiation patterns. A potentially important technique is surface-wave spectral ratios. The advantages and disadvantages of using spectral ratios to determine source depth are discussed. The technique is then applied to the Fallon earthquake of July 20 1962.

Theory

In the following, we will restrict ourselves to the far-field expressions for a point force, couple and double couple derived in Harkrider (1964) and Ben-Menahem and Harkrider (1964). The near-field expressions for surface waves due to a point force can be obtained from Harkrider (1964). The techniques of Ben-Menahem and Toksöz (1963), Haskell (1963), and Ben-Menahem and Harkrider (1964) can be applied to the point force solutions to obtain the far and near fields generated by higher order multipole sources.

The spectral far-field solutions for Love and Rayleigh waves may be written as

$$U = Sk^m e^{-i(1+2m)\pi/4} \chi(\theta, h) E \frac{e^{-ikr}}{r^{1/2}} \tag{1}$$

where U = spectral horizontal Rayleigh or Love surface displacement, S = spectral

source function, $m = 0$, point force and $m = 1$, couple or double couple, $k = \omega/c$ Rayleigh or Love angular wave number, h = source depth, and θ = azimuth.

$$E_R = \epsilon_0 \underline{A}_R k_R^{-1/2}. \tag{2}$$

$$E_L = \underline{A}_L k_L^{-1/2}. \tag{3}$$

$\epsilon_0 = -[\dot{u}_0^*/\dot{w}_0]$, Rayleigh-wave surface ellipticity, $\underline{A}$ = Rayleigh or Love amplitude response, r = epicentral distance; and the subscripts R and L denote quantities associated with Rayleigh and Love waves, respectively.

TABLE 1

RADIATION PATTERN COEFFICIENTS

Coefficient	Point Force	
	Love	Rayleigh
d_0	0	$\sin\lambda \sin \delta W(h)$
d_1	$\cos\lambda V(h)$	$-\sin\lambda \cos \delta A(h)$
d_2	$-\sin\lambda \cos \delta V(h)$	$-\cos\lambda A(h)$
d_3	0	0
d_4	0	0

Coefficient	Couple	
	Love	Rayleigh
d_0	$-\frac{1}{2}\cos\lambda \sin \delta V(h)$	$\frac{1}{4}\sin\lambda \sin 2\delta B(h)$
d_1	$\cos\lambda \cos \delta G(h)$	$\sin\lambda[W(h) - \cos^2 \delta C(h)]$
d_2	$-\sin\lambda \cos^2 \delta G(h)$	$\cos\lambda \cos \delta[W(h) - C(h)]$
d_3	$\frac{1}{4}\sin\lambda \sin 2\delta V(h)$	$\frac{1}{2}\cos\lambda \sin \delta A(h)$
d_4	$\frac{1}{2}\cos\lambda \sin \delta V(h)$	$-\frac{1}{4}\sin\lambda \sin 2\delta A(h)$

Coefficient	Double Couple	
	Love	Rayleigh
d_0	0	$\frac{1}{2}\sin\lambda \sin 2\delta B(h)$
d_1	$\cos\lambda \cos \delta G(h)$	$-\sin\lambda \cos 2\delta C(h)$
d_2	$-\sin\lambda \cos 2\delta G(h)$	$-\cos\lambda \cos \delta C(h)$
d_3	$\frac{1}{2}\sin\lambda \sin 2\delta V(h)$	$\cos\lambda \sin \delta A(h)$
d_4	$\cos\lambda \sin \delta V(h)$	$-\frac{1}{2}\sin\lambda \sin 2\delta A(h)$

The complex radiation pattern function is

$$\chi(\theta, h) = d_0 + i(d_1 \sin\theta + d_2 \cos\theta) + d_3 \sin 2\theta + d_4 \cos 2\theta. \tag{4}$$

The coefficients d_i are given in Table 1. The quantities $W(h)$, $A(h)$, $C(h)$, $B(h)$, $V(h)$ and $G(h)$ used in Table 1 are given in terms of the Thomson-Haskell displacement-stress vector elements (Haskell, 1953) as

$$W(h) = [\dot{w}_S(h)/\dot{w}_0]$$

$$A(h) = -[\dot{u}_S^*(h)/\dot{w}_0]$$

$$C(h) = -\frac{1}{\mu_S}[\tau_{RS}(h)/(\dot{w}_0/C_R)]$$

$$B(h) = -\left\{\left(3 - 4\frac{\beta_S^2}{\alpha_S^2}\right)[\dot{u}_S^*(h)/\dot{w}_0] + \frac{2}{\rho_S\alpha_S^2}[\sigma_{RS}^*(h)/(\dot{w}_0/C_R)]\right\}$$

$$V(h) = [\dot{v}_S(h)/\dot{v}_0] \tag{5}$$

and

$$G(h) = \frac{1}{\mu_S}[\tau_{LS}^*(h)/(\dot{v}_0/C_L)].$$

The quantities in square brackets are the vector elements evaluated at source depth h. It should be noted that the preceeding expressions are different from the corresponding formula in Ben-Menahem and Harkrider (1964) in order to eliminate an artificial infinity in their $\chi(\theta)$ which resulted from zeros of $[\dot{w}_S(h)/\dot{w}_0]$ and $[\dot{v}_S(h)/\dot{v}_0]$. In addition their relations for $G(h)$ included a sign misprint.

In order to obtain expressions for higher order multipoles, it is necessary to differentiate the normalized displacement-stress quantities in square brackets with respect to source depth. These derivatives are

$$\frac{\partial}{\partial h}\left[\frac{\dot{u}_S^*(h)}{\dot{w}_0}\right] = k_R\left\{\left[\frac{\dot{w}_S(h)}{\dot{w}_0}\right] + \frac{1}{\mu_S}\left[\frac{\tau_{RS}(h)}{\dot{w}_0/C_R}\right]\right\}$$

$$\frac{\partial}{\partial h}\left[\frac{\dot{w}_S(h)}{\dot{w}_0}\right] = -\frac{k_R}{(\lambda_S + 2\mu_S)}\left\{\lambda_S\left[\frac{\dot{u}_S^*(h)}{\dot{w}_0}\right] + \left[\frac{\sigma_{RS}^*(h)}{\dot{w}_0/C_R}\right]\right\}$$

$$\frac{\partial}{\partial h}\left[\frac{\dot{v}_S(h)}{\dot{v}_0}\right] = -\frac{k_L}{\mu_S}\left[\frac{\tau_{LS}^*(h)}{\dot{v}_0/C_L}\right]$$

$$\frac{\partial}{\partial h}\left[\frac{\sigma_{RS}^*(h)}{\dot{w}_0/C_R}\right] = k_R\left\{\rho_S C_R^2\left[\frac{\dot{w}_S(h)}{\dot{w}_0}\right] + \left[\frac{\tau_{RS}(h)}{\dot{w}_0/C_R}\right]\right\}$$

$$\frac{\partial}{\partial h}\left[\frac{\tau_{RS}(h)}{\dot{w}_0/C_R}\right] = -k_R\left\{\frac{\lambda_S}{(\lambda_S + 2\mu_S)}\left[\frac{\sigma_{RS}^*(h)}{\dot{w}_0/C_R}\right] + \left[\rho_S C_R^2 - \frac{4\mu_S(\lambda_S + \mu_S)}{(\lambda_S + 2\mu_S)}\right]\left[\frac{\dot{u}_S^*(h)}{\dot{w}_0}\right]\right\} \tag{6}$$

and

$$\frac{\partial}{\partial h}\left[\frac{\tau_{LS}^*(h)}{\dot{v}_0/C_L}\right] = k_L(\rho_S C_L^2 - \mu_S)\left[\frac{\dot{v}_S(h)}{\dot{v}_0}\right],$$

where ρ = density, $\mu = \rho\beta^2$ = rigidity, $(\lambda + 2\mu = \rho\alpha^2)$, β = shear-wave velocity, and α = compressional-wave velocity; the s subscripts denotes quantities evaluated in the source layer. These relations were also used to obtain expressions for $A(h)$, $B(h)$, $C(h)$, and $G(h)$ resulting from differentiation of the point force solutions.

The amplitude response, A_R and A_L are functions of frequency, mode order, and the elastic properties of the multilayered array. They are independent of source type and

depth and are defined in Harkrider (1964) as

$$\underline{A}_R = \frac{G^*N - L^*H}{\left(\frac{\partial F_R}{\partial k}\right)_\omega} \tag{7}$$

and

$$\underline{A}_L = \frac{1}{\left[\frac{\dot{v}_{n-1}}{\dot{v}_0}\right]\left(\frac{\partial F_L}{\partial k}\right)_\omega}$$

where $[\dot{v}_{n-1}/\dot{v}_0]$ is the normalized Love-wave displacement at the interface between the bottom layer and the terminating halfspace. The F_R and F_L are the Rayleigh- and Love-wave period equations, respectively.

The amplitude response factors can also be expressed in terms of depth integrals as

$$\underline{A}_R = \left[2C_R U_R \int_0^\infty \rho\{[\dot{u}^*(z)/\dot{w}_0]^2 + [\dot{w}(z)/\dot{w}_0]^2\}\, dz\right]^{-1} \tag{8}$$

and

$$\underline{A}_L = \left[2C_L U_L \int_0^\infty \rho[\dot{v}(z)/\dot{v}_0]^2\, dz\right]^{-1}$$

(Keilis-Borok and Yanovskaya, 1962; Harkrider and Anderson, 1966; Vlaar, 1966; Vilkovitch *et al.*, 1966; and Saito, 1967 among others) where U is the group velocity. Since ρ is the density, the integrals are proportional to the kinetic energy densities of their respective surface waves.

The displacement-stress elements, the period equations, and the quantities, G^*, N, L^* and H can be expressed in terms of Thomson-Haskell matrices and their products. However, in calculating these terms for Rayleigh waves, the Thomson-Haskell technique results in numerical instabilities as frequency or mode order is increased. The following formulation, which is based on the Dunkin-Thrower algorithms, eliminates this numerical difficulty.

If we define the matrix operations

$$R = T_n^{-1}A = T_n^{-1}(a_{n-1} \cdots a_1) \tag{9}$$

where A is the Rayleigh product matrix of the Thomson-Haskell layer matrices, a_m, for the $n - 1$ solid layers and

$$T_n^{-1} = \begin{bmatrix} i\gamma_n r^*_{\alpha n} & (\gamma_n - 1) & -\frac{ir^*_{\alpha n}}{\rho_n C^2} & \frac{1}{\rho_n C^2} \\ -(\gamma_n - 1) & i\gamma_n r^*_{\beta n} & \frac{1}{\rho_n C^2} & \frac{ir^*_{\beta n}}{\rho_n C^2} \\ i\gamma_n r^*_{\alpha n} & -(\gamma_n - 1) & -\frac{ir^*_{\alpha n}}{\rho_n C^2} & \frac{1}{\rho_n C^2} \\ (\gamma_n - 1) & i\gamma_n r^*_{\beta n} & -\frac{1}{\rho_n C^2} & \frac{ir^*_{\beta n}}{\rho_n C^2} \end{bmatrix} \tag{10}$$

the scalars in equation (68) of Harkrider (1964) can be written as

$$L = R_{11} \equiv iR_{11}^{*}\,,\ K = R_{12}\,,\ G = G_{13} \equiv iR_{13}^{*}\,,\ R = R_{14}\,,\ N = R_{21}\,,$$

$$M = R_{22} \equiv iR_{22}^{*}\,,\ H = R_{23} \text{ and } S = R_{24} \equiv iR_{24}^{*}\,. \quad (11)$$

Thus

$$\begin{aligned} RN - SL &= -R\begin{pmatrix}12\\14\end{pmatrix} \\ GN - HL &= -R\begin{pmatrix}12\\13\end{pmatrix} \\ GM - HK &= -R\begin{pmatrix}12\\23\end{pmatrix} \\ NK - LM &= -R\begin{pmatrix}12\\12\end{pmatrix} \end{aligned} \quad (12)$$

where

$$R\begin{pmatrix}jk\\lm\end{pmatrix} \equiv R_{jl}R_{km} - R_{jm}R_{kl} = -R\begin{pmatrix}jk\\ml\end{pmatrix} = R\begin{pmatrix}kj\\ml\end{pmatrix} \quad (13)$$

The second compound matrices of R are defined here as

$$\mathfrak{R}_{st} = R\begin{pmatrix}jk\\lm\end{pmatrix}$$

where $S = 1, 2, 3, 4, 5, 6$, corresponds to pairs $jk = 12, 13, 14, 23, 24, 34$ with an identical correspondence of t to lm (Gilbert and Backus 1966; and Thrower, 1965). In this notation, we have

$$\begin{aligned} NK - LM &= -\mathfrak{R}_{11} \\ GN - HL &= -\mathfrak{R}_{12} \equiv -i\mathfrak{R}_{12}^{*} \\ RN - SL &= -\mathfrak{R}_{13} \\ GM - HK &= -\mathfrak{R}_{14}\,. \end{aligned} \quad (14)$$

An important property of compound matrices is that if

$$R = T_n^{-1}A \quad (15)$$

then

$$\mathfrak{R} = \mathfrak{T}_n^{-1}\mathfrak{A} \quad (16)$$

where $\mathfrak{R}$, $\mathfrak{Z}_n^{-1}$ and $\mathfrak{A}$ are the compound matrices of R, T_n^{-1} and A, respectively. Thus

$$\mathfrak{A} = a_{n-1} \cdots a, \tag{17}$$

where a_m are the layer compound matrices given in Appendix I, and from equation (10) we have

$$\begin{aligned}
(\mathfrak{Z}_n^{-1})_{11} &= (\gamma_n - 1)^2 - \gamma_n^2 r_{\alpha n}^* r_{\beta n}^* \\
(\mathfrak{Z}_n^{-1})_{12} &= i(\rho_n c^2)^{-1} r_{\alpha n}^* \\
(\mathfrak{Z}_n^{-1})_{13} = (\mathfrak{Z}_n^{-1})_{14} &= (\rho_n c^2)^{-1}[(\gamma_n - 1) - \gamma_n r_{\alpha n}^* r_{\beta n}^*] \\
(\mathfrak{Z}_n^{-1})_{15} &= -i(\rho_n c^2)^{-1} r_{\beta n}^* \\
(\mathfrak{Z}_n^{-1})_{16} &= (\rho_n c^2)^{-2}(r_{\beta n}^* r_{\alpha n}^* - 1)
\end{aligned} \tag{18}$$

which are used to calculate $\mathfrak{R}_{11}$, $\mathfrak{R}_{12}$, $\mathfrak{R}_{13}$ and $\mathfrak{R}_{14}$.

The period equation for Rayleigh waves in a solid array is given by

$$F_R \equiv -\mathfrak{R}_{11} = 0. \tag{19}$$

It was noted by Rosenbaum (1964) and Dunkin (1965) that the coefficient of the dominant term in $\mathfrak{R}_{11}$ at moderate to high frequencies was identically zero for all frequencies. Thus calculating $\mathfrak{R}_{11}$ from its Thomson-Haskell elements causes a loss of significant figures at these frequencies. Dunkin (1965) and Thrower (1965) pointed out that calculating $\mathfrak{R}$ by means of the compound matrices eliminates this loss of significance at high frequencies.

In terms of the compound matrices, the ratio of horizontal to vertical displacement or velocity, i.e., surface ellipticity, is

$$\left[\frac{\dot{u}_0}{\dot{w}_0}\right] = -\frac{RN - SL}{GN - HL} = -\frac{\mathfrak{R}_{13}}{\mathfrak{R}_{12}} = -\frac{\mathfrak{R}_{14}}{\mathfrak{R}_{12}} \tag{20}$$

since

$$RN - SL \equiv GM - HK = -\mathfrak{R}_{14}. \tag{21}$$

This relation holds even if there is a liquid layer at the surface where $[\dot{u}_0/\dot{w}_0]$ is understood to be the ratio at the top of the solid array.

For the surface liquid layer, the period equation takes the form

$$F_R = -\mathfrak{R}_{11} + \mathfrak{R}_{12} T^* \tag{22}$$

where

$$T = \left[\frac{\sigma_0}{\dot{w}_0/C}\right] = iT^* = \frac{i\rho_0 C^2}{r_{\alpha 0}} \tan(k r_{\alpha 0} d_0) \tag{23}$$

and the 0 subscript denotes the physical parameters of the liquid surface layer.

Defining B^m as

$$B^m = RA_{m-1}^{-1}$$

$$= T_n^{-1}a_{n-1} \cdots a_m \text{ where } A_m = a_m \cdots a_1 , \tag{24}$$

we have that

$$B^m = B^{m+1}a_m \tag{25}$$

with

$$B^n = RA_{n-1}^{-1} \equiv RA^{-1} = T_n^{-1}.$$

Making use of these relations the normalized displacement stress vector $U_m(z)$ given by

$$U_m(z) = \begin{bmatrix} \dfrac{\dot{u}_m(z)}{\dot{w}_0} \\ \dfrac{\dot{w}_m(z)}{\dot{w}_0} \\ \dfrac{\sigma_m(z)}{\dot{w}_0/C} \\ \dfrac{\tau_{Rm}(z)}{\dot{w}_0/C} \end{bmatrix} \quad \text{for} \quad Z_{m-1} \leqq Z \leqq Z_m \tag{26}$$

can be evaluated from the compound matrices by

$$[U_m(z)]_k = \frac{B_{1l}^m}{R_{11}} A_m\binom{lk}{12} + T\frac{B_{1l}^m}{R_{11}} A_m\binom{lk}{13} \tag{27}$$

where T is zero for models without a surface liquid.

Using these relations gives very good results in calculating the fundamental and higher mode spectra at periods down to even a second for realistic earth models.

The source factor, S, in equation (1) is the same for Rayleigh and Love waves for nonpropagating point sources. For propagating sources, this factor will be a function of source dimensions, propagation velocity, and source time history. In general it will differ by terms involving the phase velocity for Rayleigh and Love waves. Representations of S for various deterministic source models can be found in Ben-Menahem (1961), Ben-Menahem and Toksöz (1962), and Haskell (1964). Representations of some "statistical" source models can be found in Haskell (1966) and Aki (1967).

Even for the more complicated models, where S and $\chi(\theta, h)$ cannot be readily separated into factors, the far-field solutions will contain combinations of the displacement-stress quantities or their integrals over the source volume.

Numerical Techniques

The Rayleigh- and Love-wave calculations presented in this paper were obtained using two programs written in FORTRAN IV for each type of surface wave. The first programs for both Rayleigh and Love waves calculate the dispersion and depth inde-

pendent quantities for a given input period. In addition, the displacement-stress values are calculated for the mid-point depth of each layer. The output from these programs are then used as input to the source depth programs which evaluate the displacement-stress quantities at any number of specified depths.

The flow for the dispersion programs is the same as that described in Press *et al.* (1961) and Harkrider and Anderson (1962) with the exception that the dispersion is calculated for a specified period instead of phase velocity. Thus the programs calculated the roots, k_j of F_R or $F_L = 0$ for an input period. The Love-wave program uses the Thomson-Haskell formulation of F_L and the Rayleigh-wave program uses the compound layer matrix formulation of F_R .

The compound layer matrices for Rayleigh waves are (6×6). The matrix multiplications in equation (17), which form the compound layer product matrix, appear to require a sequence of (6×6) matrix multiplications. Actually the largest matrix resulting from any multiplication in the program is a (6×3).

The Rayleigh period equation (19) for the solid array and (22) for a liquid surface layer use only the first column and the first two columns of the compound layer product matrix respectively. This considerably reduces the number of multiplications during the time-consuming root-hunting procedure since each (6×6) layer compound matrix can then multiply the previous (6×1) or (6×2) compound layer product matrix to obtain the next (6×1) or (6×2) compound layer product matrix as indicated by a right to left multiplication of compound matrices in equation (17).

Once a root is found to the desired accuracy, the group velocity, U, the kinetic energy density, and the amplitude responses are calculated in the Rayleigh and the Love programs. In addition, the Rayleigh program uses the second and third columns of the compound product matrix in equation (20) to obtain the surface ellipticity.

The group velocity and the amplitude response are calculated by two different numerical techniques in both programs. In one technique, U and $(\partial F/\partial k)_\omega$ are formed by computing the analytic derivatives with respect to ω and k of the individual layer matrices and then using the chain rules. The second technique forms A and U by analytically computing the depth integrals in equation (8) and in similar equations for the group velocity (Harkrider and Anderson, 1966).

The Rayleigh-wave displacement-stress values at each interface are calculated by means of equation (27). Only the first row of B^m is used, thus, B^m as a (1×4) matrix is calculated and stored for each interface using equations (25). The multiplication of each (1×4) by a (4×4) to yield the desired (1×4) matrices starts at the half-space and proceeds to the surface layer. The first two columns of the compound product matrix of layers from the surface to the desired interface is combined with B^m to yield $[U_m(z)]_k$. The dispersion programs then use the Thomson-Haskell matrix to evaluate $[U_m(z)]_k$ at the layer mid points. The Love-wave dispersion program used the Thomson-Haskell formulation for the entire displacement-stress calculation.

This same process is used for the source depth programs in which period, phase velocity, and ellipticity for Rayleigh waves are used as input. In these programs the Thomson-Haskell matrices continue the displacement-stress vectors from an interface to any specified depth in the adjacent layer.

In order to determine the significance of computed quantities, we try to use at least two theoretically equivalent but numerically different calculations. For the group velocity and the amplitude response this is done by using both the partial derivative and energy integral formulations. It is also possible to compare the very long- and short-period values with their asymptotic limits.

The asymptotic limits of the amplitude response can be obtained easily from the Thomson-Haskell formulation and are given in Appendix II and Appendix III.

Numerical Results

Tables of quantities which can be used to calculate the surface-wave spectra for multipole point sources at depth are presented here for two extreme models of the Earth's crust and mantle structure—one oceanic and one continental shield (Figure 1). The layer thickness, D in km, compressional velocity, α in km/sec, shear velocity, β in km/sec, and density, ρ in gm/cm^3, are given in Table 2 for the two models.

The tables include the fundamental and first two higher modes of Rayleigh waves and the fundamental and first three higher modes of Love waves for the two models. The period in seconds, the phase velocity, C in km/sec, the group velocity, U in km/sec and the spectral amplitude response, amplitude in 10^{-11} microns/dyne are given in

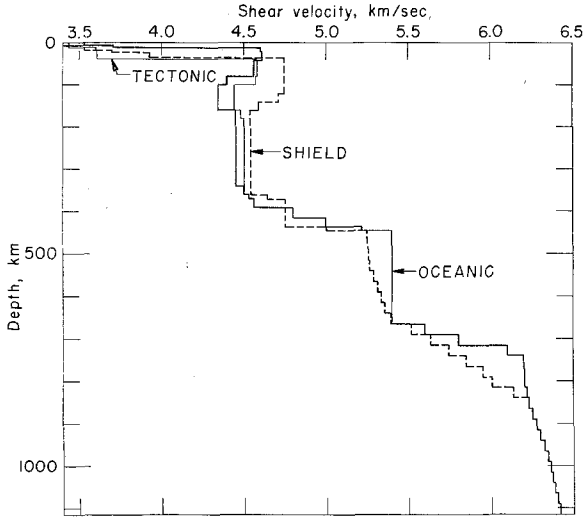

Fig. 1. Shear velocity as a function of depth for oceanic, tectonic, and shield earth models (Anderson and Toksöz, 1966; Anderson, 1966).

Tables 3 and 4 for the oceanic and shield models, respectively, and in Figures 2 to 7. The amplitude response multiplied by $k^{-1/2}$ to form the relative excitation in $10^{-12.5}$ cm$^{3/2}$/dyne is shown in Figures 6 and 7.

The negative of the Rayleigh-wave surface ellipticity, $[\dot{u}_0^*/\dot{w}_0]$, is tabulated under the label of *UO/WO* in Table 5.

The depth-dependent terms in $W(h)$, $A(h)$, $C(h)$, $B(h)$, $V(h)$ and $G(h)$ which determine $\chi(\theta, h)$ are tabulated in Tables 6 to 27 for 11 depths in each model. The source depths are 10, 20, 35, 50, 70, 100, 150, 200, 350, 500, and 700 km. The quantities

$$[\dot{u}_S^*(h)/\dot{w}_0],\ [\dot{w}_S(h)/\dot{w}_0],\ [\sigma_{RS}(h)/(\dot{w}_0/C_R)],\ [\tau_{RS}(h)/(\dot{w}_0/C_R)],$$

$$[\dot{v}_S(h)/v_0] \text{ and } [\tau_{LS}(h)/(\dot{v}_0/C_L)]$$

are given in these depth tables under columns labeled respectively *UM/WO*, *WM/WO*, *ZM/WO/K*, *XM/WO/K*, *VM/VO*, and *YM/VO/K*.

Since these quantities are the elements of the Thomson-Haskell displacement-stress

TABLE 2

Elastic-Layer Parameters for the Oceanic and Shield Models

OCEAN

D	ALPHA	BETA	RHO	MU	LAMDA	DEPTH	M
5.00	1.5200	0.	1.0300	0.	2.379712	2.50	0
1.00	2.1000	1.0000	2.1000	2.100000	5.061000	5.50	1
5.00	6.4100	3.7000	3.0660	41.973539	42.029035	8.50	2
9.00	8.1100	4.6060	3.4000	72.131800	79.361530	15.50	3
5.00	8.1200	4.6110	3.4000	72.288488	79.599974	22.50	4
15.00	8.1200	4.6100	3.4000	72.257137	79.662676	32.50	5
20.00	8.0100	4.5600	3.3700	70.074429	76.070675	50.00	6
20.00	7.9500	4.5600	3.3700	70.074429	72.843563	70.00	7
20.00	7.7100	4.4000	3.3700	65.243197	69.840218	90.00	8
20.00	7.6800	4.3400	3.3300	62.722546	70.966294	110.00	9
20.00	7.7770	4.3400	3.3300	62.722546	75.959060	130.00	10
20.00	7.8500	4.3400	3.3300	62.722546	79.757827	150.00	11
20.00	8.1000	4.4500	3.3300	65.942324	86.596643	170.00	12
20.00	8.1200	4.4500	3.3300	65.942324	87.676895	190.00	13
20.00	8.1200	4.4500	3.3300	65.942324	87.676895	210.00	14
20.00	8.1200	4.4500	3.3300	65.942324	87.676895	230.00	15
20.00	8.1200	4.4500	3.3300	65.942324	87.676895	250.00	16
20.00	8.1200	4.4500	3.3500	66.338373	88.203485	270.00	17
20.00	8.1200	4.4500	3.3600	66.536399	88.466776	290.00	18
20.00	8.1200	4.4500	3.3700	66.734424	88.730070	310.00	19
20.00	8.1200	4.4500	3.3800	66.932448	88.993366	330.00	20
20.00	8.2400	4.5000	3.3900	68.647499	92.877855	350.00	21
10.00	8.3000	4.5300	3.4400	70.591894	95.797806	365.00	22
20.00	8.3600	4.5600	3.5000	72.777597	99.058397	380.00	23
25.00	8.7500	4.7950	3.6840	84.702617	112.651014	402.50	24
20.00	9.1500	5.0400	3.8800	98.558205	127.726883	425.00	25
10.00	9.4300	5.2170	3.9000	106.146643	134.513813	440.00	26
20.00	9.7600	5.4000	3.9200	114.307198	144.795391	455.00	27
25.00	9.7650	5.4000	3.9330	114.686278	145.659540	477.50	28
25.00	9.7750	5.4000	3.9480	115.123677	146.986506	502.50	29
25.00	9.7800	5.4000	3.9600	115.473598	147.820463	527.50	30
25.00	9.7840	5.4000	3.9880	116.290077	149.177738	552.50	31
25.00	9.7880	5.4000	4.0220	117.281517	150.764442	577.50	32
25.00	9.7920	5.4000	4.0560	118.272958	152.356596	602.50	33
25.00	9.7960	5.4000	4.0900	119.264398	153.954199	627.50	34
25.00	9.8000	5.4000	4.1200	120.139196	155.406395	652.50	35
25.00	10.1630	5.6000	4.1650	130.614395	168.959763	677.50	36
25.00	10.4880	5.8000	4.2120	141.691675	179.928814	702.50	37
25.00	10.8180	6.1000	4.2570	158.402966	181.387039	727.50	38
25.00	11.1200	6.2000	4.3000	165.291996	201.129906	752.50	39
25.00	11.1350	6.2050	4.4750	172.296558	210.254181	777.50	40
25.00	11.1500	6.2100	4.6330	178.667469	218.651192	802.50	41
25.00	11.1650	6.2180	4.7970	185.468922	227.042854	827.50	42
25.00	11.1800	6.2300	4.9400	191.735720	233.991001	852.50	43
25.00	11.2240	6.2500	4.9425	193.066404	236.514317	877.50	44
25.00	11.2670	6.2750	4.9450	194.712463	238.319519	902.50	45
25.00	11.3100	6.2970	4.9475	196.179302	240.506287	927.50	46
25.00	11.3500	6.3220	4.9500	197.840031	241.991287	952.50	47
25.00	11.3920	6.3400	4.9517	199.036549	244.546944	977.50	48
25.00	11.4340	6.3600	4.9534	200.363043	246.863354	1002.50	49
25.00	11.4760	6.3750	4.9550	201.374296	249.817837	1027.50	50
25.00	11.5180	6.3900	4.9567	202.392466	252.792294	1052.50	51
25.00	11.5600	6.4050	4.9584	203.413521	255.781784	1077.50	52
25.00	11.6000	6.4210	4.9600	204.497028	258.423523	1102.50	53

SHIELD

D	ALPHA	BETA	RHO	MU	LAMDA	DEPTH	M
10.00	6.1000	3.5400	2.5500	31.955579	30.974339	5.00	1
6.50	6.1000	3.5400	2.5500	31.955579	30.974339	13.25	2
5.00	6.4000	3.7000	3.0800	42.165199	41.826400	19.00	3
5.00	6.7000	3.9200	3.4200	52.553087	48.417622	24.00	4
5.00	6.7000	3.9200	3.4200	52.553087	48.417622	29.00	5
3.50	6.7000	3.9200	3.4200	52.553087	48.417622	33.25	6
5.00	8.1500	4.7500	3.4200	77.163750	72.837444	37.50	7
20.00	8.1600	4.7500	3.4200	77.163750	73.395247	50.00	8
20.00	8.2100	4.7500	3.4200	77.163750	76.194515	70.00	9
20.00	8.2600	4.7500	3.4200	77.163750	79.010887	90.00	10
20.00	8.3200	4.7500	3.4200	77.163750	82.413103	110.00	11
20.00	8.3000	4.7000	3.4000	75.105998	84.013996	130.00	12
20.00	8.2840	4.5800	3.4000	71.319757	90.684305	150.00	13
20.00	8.2840	4.5400	3.4000	70.079437	93.164946	170.00	14
20.00	8.2840	4.5400	3.4100	70.285554	93.438961	190.00	15
20.00	8.2840	4.5400	3.4200	70.491670	93.712975	210.00	16
20.00	8.2840	4.5400	3.4500	71.110018	94.535019	230.00	17
20.00	8.2840	4.5400	3.4500	71.110018	94.535019	250.00	18
20.00	8.2840	4.5400	3.4500	71.110018	94.535019	270.00	19
20.00	8.2840	4.5400	3.4500	71.110018	94.535019	290.00	20
20.00	8.2840	4.5400	3.4500	71.110018	94.535019	310.00	21
20.00	8.2840	4.5400	3.4500	71.110018	94.535019	330.00	22
20.00	8.3130	4.5400	3.4500	71.110018	96.195551	350.00	23
10.00	8.5070	4.6430	3.4500	74.373197	100.926821	365.00	24
20.00	8.7000	4.7500	3.4500	77.840624	105.449245	380.00	25
25.00	8.7400	4.7500	3.6600	82.578750	114.421106	402.50	26
20.00	8.7600	4.7500	3.8800	87.542500	122.656883	425.00	27
10.00	9.0380	5.0000	3.9000	97.499999	123.573225	440.00	28
20.00	9.4890	5.2500	3.9200	108.044999	136.871187	455.00	29
25.00	9.5000	5.2530	3.9330	108.527235	137.898777	477.50	30
25.00	9.5160	5.2570	3.9480	109.107119	139.293953	502.50	31
25.00	9.5260	5.2600	3.9600	109.563694	140.221516	527.50	32
25.00	9.5760	5.2850	3.9880	111.389723	142.919250	552.50	33
25.00	9.6300	5.3130	4.0220	113.532887	145.922029	577.50	34
25.00	9.6830	5.3400	4.0560	115.659271	148.973991	602.50	35
25.00	9.7360	5.3670	4.0900	117.811175	152.067495	627.50	36
25.00	9.7820	5.3900	4.1200	119.694649	154.843288	652.50	37
25.00	10.0140	5.5180	4.1650	126.817265	164.032475	677.50	38
25.00	10.1800	5.6300	4.2120	133.507339	169.484978	702.50	39
25.00	10.1900	5.7460	4.2570	140.551306	160.927654	727.50	40
25.00	10.4920	5.8500	4.3000	147.156744	179.039375	752.50	41
25.00	10.6770	5.9500	4.4750	158.426184	193.290142	777.50	42
25.00	10.8520	6.0440	4.6330	169.243189	207.123043	802.50	43
25.00	11.0250	6.1400	4.7970	180.844978	221.388382	827.50	44
25.00	11.1800	6.2300	4.9400	191.735720	233.991001	852.50	45
25.00	11.2240	6.2500	4.9425	193.066404	236.514317	877.50	46
25.00	11.2670	6.2750	4.9450	194.712463	238.319519	902.50	47
25.00	11.3100	6.2970	4.9475	196.179302	240.506287	927.50	48
25.00	11.3500	6.3220	4.9500	197.840031	241.991287	952.50	49
25.00	11.3920	6.3400	4.9517	199.036549	244.546944	977.50	50
25.00	11.4340	6.3600	4.9534	200.363043	246.863354	1002.50	51
25.00	11.4760	6.3750	4.9550	201.374296	249.817837	1027.50	52
25.00	11.5180	6.3900	4.9567	202.392466	252.792294	1052.50	53
25.00	11.5600	6.4050	4.9584	203.413521	255.781784	1077.50	54
25.00	11.6000	6.4210	4.9600	204.497028	258.423523	1102.50	55

TABLE 3

Phase Velocity, Group Velocity, and Spectral-amplitude Response of the First Three Rayleigh-wave Modes and the First Four Love-wave Modes for an Oceanic Model

OCEAN

RAYLEIGH

MODE 1,1

PERIOD	C	U	AMPLITUDE
350.	5.3031	4.2744	0.84971E-05
300.	5.0747	3.8317	0.13788E-04
250.	4.7686	3.5593	0.21062E-04
225.	4.6080	3.5242	0.24922E-04
200.	4.4570	3.5466	0.28759E-04
175.	4.3242	3.6118	0.32620E-04
150.	4.2147	3.7052	0.36736E-04
140.	4.1782	3.7468	0.38564E-04
130.	4.1460	3.7892	0.40577E-04
120.	4.1181	3.8311	0.42861E-04
110.	4.0945	3.8713	0.45526E-04
100.	4.0751	3.9089	0.48730E-04
90.	4.0598	3.9430	0.52690E-04
80.	4.0483	3.9734	0.57722E-04
70.	4.0406	4.0003	0.64296E-04
65.	4.0382	4.0125	0.68392E-04
60.	4.0367	4.0237	0.73226E-04
55.	4.0360	4.0334	0.79034E-04
50.	4.0361	4.0406	0.86209E-04
45.	4.0368	4.0434	0.95369E-04
40.	4.0373	4.0383	0.10763E-03
35.	4.0364	4.0190	0.12511E-03
30.	4.0309	3.9740	0.15218E-03
25.	4.0134	3.8764	0.19949E-03
20.	3.9608	3.6252	0.30436E-03
15.	3.6729	2.1397	0.88311E-03
10.	1.9640	1.0306	0.26228E-02

MODE 2,1

PERIOD	C	U	AMPLITUDE
250.	6.4187	6.2092	0.48542E-06
225.	6.3648	5.7486	0.16510E-05
200.	6.2769	5.5754	0.20267E-05
175.	6.1650	5.3802	0.23234E-05
150.	6.0099	5.0616	0.28214E-05
140.	5.9285	4.9082	0.30815E-05
130.	5.8338	4.7616	0.33458E-05
120.	5.7271	4.6392	0.35931E-05
110.	5.6112	4.5478	0.38384E-05
100.	5.4894	4.4771	0.41593E-05
90.	5.3626	4.4018	0.47063E-05
80.	5.2272	4.2925	0.56783E-05
70.	5.0757	4.1539	0.70467E-05
65.	4.9934	4.1002	0.76279E-05
60.	4.9094	4.0762	0.79069E-05
55.	4.8275	4.0855	0.77926E-05
50.	4.7511	4.1206	0.73227E-05
45.	4.6826	4.1699	0.66104E-05
40.	4.6232	4.2226	0.57779E-05
35.	4.5728	4.2716	0.49222E-05
30.	4.5308	4.3122	0.41040E-05
25.	4.4958	4.3418	0.33333E-05
20.	4.4662	4.3573	0.25127E-05
15.	4.4385	4.3536	0.13229E-05
10.	4.4095	4.3399	0.20906E-06

MODE 1,2

PERIOD	C	U	AMPLITUDE
110.	6.4189	6.2371	0.28255E-06
100.	6.3773	5.8055	0.10764E-05
90.	6.2895	5.3668	0.22214E-05
80.	6.1111	4.6128	0.48764E-05
70.	5.8171	4.2455	0.62858E-05
65.	5.6701	4.3037	0.57345E-05
60.	5.5414	4.4048	0.49733E-05
55.	5.4299	4.4748	0.44360E-05
50.	5.3270	4.4665	0.43884E-05
45.	5.2196	4.3569	0.50195E-05
40.	5.0936	4.1893	0.62285E-05
35.	4.9488	4.0906	0.71624E-05
30.	4.8047	4.1038	0.71037E-05
25.	4.6794	4.1762	0.59908E-05
20.	4.5807	4.2674	0.38105E-05
15.	4.5118	4.3554	0.12873E-05
10.	4.4733	4.4174	0.80446E-07

LOVE

MODE 0

PERIOD	C	U	AMPLITUDE
350.	5.3377	4.3815	0.14669E-04
300.	5.1679	4.3094	0.17569E-04
250.	4.9978	4.2819	0.20616E-04
225.	4.9155	4.2819	0.22187E-04
200.	4.8365	4.2892	0.23798E-04
175.	4.7615	4.3020	0.25454E-04
150.	4.6914	4.3191	0.27156E-04
140.	4.6649	4.3268	0.27846E-04
130.	4.6394	4.3351	0.28539E-04
120.	4.6148	8.3438	0.29229E-04
110.	4.5914	4.3528	0.29912E-04
100.	4.5691	4.3622	0.30580E-04
90.	4.5481	4.3717	0.31219E-04
80.	4.5284	4.3812	0.31813E-04
70.	4.5101	4.3906	0.32331E-04
65.	4.5015	4.3951	0.32548E-04
60.	4.4933	4.3993	0.32725E-04
55.	4.4855	4.4033	0.32849E-04
50.	4.4781	4.4068	0.32900E-04
45.	4.4710	4.4097	0.32851E-04
40.	4.4642	4.4117	0.32664E-04
35.	4.4577	4.4124	0.32282E-04
30.	4.4511	4.4112	0.31637E-04
25.	4.4440	4.4067	0.30696E-04
20.	4.4355	4.3965	0.29749E-04
15.	4.4230	4.3750	0.32119E-04
10.	4.3832	4.0285	0.93275E-03

MODE 1

PERIOD	C	U	AMPLITUDE
200.	6.4184	6.2270	0.70590E-06
175.	6.3370	5.5006	0.37189E-05
150.	6.1452	4.9676	0.67933E-05
140.	6.0411	4.8078	0.81041E-05
130.	5.9248	4.6788	0.94877E-05
120.	5.7993	4.5753	0.11007E-04
110.	5.6669	4.4889	0.12775E-04
100.	5.5292	4.4106	0.14957E-04
90.	5.3865	4.3353	0.17716E-04
80.	5.2392	4.2678	0.21092E-04
70.	5.0896	4.2233	0.24847E-04
65.	5.0156	4.2147	0.26736E-04
60.	4.9433	4.2163	0.28576E-04
55.	4.8739	4.2272	0.30362E-04
50.	4.8081	4.2458	0.32124E-04
45.	4.7467	4.2700	0.33937E-04
40.	4.6904	4.2973	0.35921E-04
35.	4.6396	4.3257	0.38277E-04
30.	4.5943	4.3529	0.41356E-04
25.	4.5546	4.3769	0.45951E-04
20.	4.5200	4.3942	0.55171E-04
15.	4.4883	4.3879	0.10843E-03
10.	4.4061	4.2893	0.10859E-03

MODE 2

PERIOD	C	U	AMPLITUDE
100.	6.4172	6.0780	0.12031E-05
90.	6.3119	5.1070	0.57502E-05
80.	6.1077	4.6920	0.88071E-05
70.	5.8727	4.5957	0.10322E-04
65.	5.7576	4.5815	0.11116E-04
60.	5.6444	4.5472	0.12516E-04
55.	5.5286	4.4672	0.15136E-04
50.	5.4030	4.3384	0.19543E-04
45.	5.2631	4.2086	0.25525E-04
40.	5.1135	4.1396	0.32104E-04
35.	4.9665	4.1380	0.39180E-04
30.	4.8318	4.1761	0.48232E-04
25.	4.7144	4.2289	0.62948E-04
20.	4.6150	4.2773	0.93808E-04
15.	4.5293	4.2937	0.16637E-03
10.	4.4721	4.4204	0.34028E-05

MODE 3

PERIOD	C	U	AMPLITUDE
65.	6.3865	5.4733	0.37586E-05
60.	6.2643	4.8186	0.76193E-05
55.	6.0859	4.5202	0.10261E-04
50.	5.8965	4.5045	0.10837E-04
45.	5.7293	4.6195	0.10322E-04
40.	5.5847	4.6387	0.11601E-04
35.	5.4254	4.3711	0.19251E-04
30.	5.2097	4.1066	0.30599E-04
25.	4.9814	4.0934	0.39205E-04
20.	4.7846	4.1709	0.46993E-04
15.	4.6305	4.2664	0.47983E-04
10.	4.5239	4.3666	0.95348E-05

TABLE 4

PHASE VELOCITY, GROUP VELOCITY, AND SPECTRAL-AMPLITUDE RESPONSE OF THE FIRST THREE RAYLEIGH-WAVE MODES AND THE FIRST FOUR LOVE-WAVE MODES FOR A SHIELD MODEL

SHIELD

RAYLEIGH

MODE 1,1

PERIOD	C	U	AMPLITUDE
350.	5.2358	4.1434	0.90302E-05
300.	5.0010	3.7837	0.13786E-04
250.	4.7184	3.6251	0.19418E-04
225.	4.5800	3.6302	0.22226E-04
200.	4.4542	3.6771	0.25009E-04
175.	4.3461	3.7541	0.27862E-04
150.	4.2593	3.8512	0.30976E-04
140.	4.2312	3.8934	0.32378E-04
130.	4.2069	3.9361	0.33936E-04
120.	4.1867	3.9783	0.35717E-04
110.	4.1704	4.0187	0.37825E-04
100.	4.1580	4.0555	0.40416E-04
90.	4.1492	4.0870	0.43737E-04
80.	4.1437	4.1097	0.48207E-04
70.	4.1402	4.1200	0.54557E-04
65.	4.1387	4.1182	0.58850E-04
60.	4.1369	4.1102	0.64259E-04
55.	4.1340	4.0939	0.71266E-04
50.	4.1291	4.0664	0.80633E-04
45.	4.1206	4.0234	0.93661E-04
40.	4.1059	3.9585	0.11271E-03
35.	4.0804	3.8614	0.14244E-03
30.	4.0362	3.7160	0.19288E-03
25.	3.9578	3.5018	0.28737E-03
20.	3.8204	3.2278	0.47539E-03
15.	3.6112	3.0266	0.81247E-03
10.	3.3885	3.0400	0.13263E-02

MODE 2,1

PERIOD	C	U	AMPLITUDE
250.	6.4090	6.0322	0.79881E-06
225.	6.3501	5.7579	0.13867E-05
200.	6.2683	5.6160	0.16104E-05
175.	6.1644	5.4233	0.18564E-05
150.	6.0167	5.0928	0.23346E-05
140.	5.9371	4.9286	0.25974E-05
130.	5.8431	4.7704	0.28640E-05
120.	5.7358	4.6411	0.30934E-05
110.	5.6192	4.5530	0.32700E-05
100.	5.4981	4.5003	0.34296E-05
90.	5.3760	4.4629	0.36567E-05
80.	5.2531	4.4165	0.40615E-05
70.	5.1257	4.3480	0.47008E-05
65.	5.0592	4.3113	0.50511E-05
60.	4.9910	4.2834	0.53187E-05
55.	4.9224	4.2729	0.53946E-05
50.	4.8558	4.2839	0.51955E-05
45.	4.7936	4.3140	0.46989E-05
40.	4.7380	4.3564	0.39405E-05
35.	4.6902	4.4034	0.29979E-05
30.	4.6507	4.4479	0.19878E-05
25.	4.6192	4.4839	0.10685E-05
20.	4.5944	4.5076	0.41166E-06
15.	4.5743	4.5200	0.10194E-06
10.	4.5319	3.7923	0.15097E-03

MODE 1,2

PERIOD	C	U	AMPLITUDE
110.	6.4152	6.1023	0.44814E-06
100.	6.3614	5.7054	0.10955E-05
90.	6.2682	5.3634	0.18455E-05
80.	6.1108	4.8094	0.35038E-05
70.	5.8558	4.3605	0.52525E-05
65.	5.7127	4.3303	0.53284E-05
60.	5.5787	4.3831	0.49806E-05
55.	5.4597	4.4588	0.45256E-05
50.	5.3544	4.5105	0.42405E-05
45.	5.2567	4.5083	0.43385E-05
40.	5.1572	4.4448	0.49540E-05
35.	5.0485	4.3614	0.58665E-05
30.	4.9336	4.3354	0.62258E-05
25.	4.8267	4.3801	0.54273E-05
20.	4.7387	4.4468	0.37457E-05
15.	4.6691	4.4868	0.20686E-05
10.	4.5577	4.5269	0.16061E-06

LOVE

MODE 0

PERIOD	C	U	AMPLITUDE
350.	5.3418	4.4623	0.13407E-04
300.	5.1893	4.4080	0.15889E-04
250.	5.0377	4.3896	0.18636E-04
225.	4.9644	4.3911	0.20169E-04
200.	4.8939	4.3976	0.21881E-04
175.	4.8265	4.4074	0.23881E-04
150.	4.7628	4.4186	0.26369E-04
140.	4.7384	4.4230	0.27585E-04
130.	4.7145	4.4271	0.28990E-04
120.	4.6913	4.4305	0.30657E-04
110.	4.6685	4.4330	0.32700E-04
100.	4.6461	4.4338	0.35314E-04
90.	4.6239	4.4317	0.38845E-04
80.	4.6013	4.4244	0.43977E-04
70.	4.5774	4.4066	0.52200E-04
65.	4.5641	4.3904	0.58459E-04
60.	4.5493	4.3658	0.67215E-04
55.	4.5318	4.3279	0.79982E-04
50.	4.5097	4.2692	0.99298E-04
45.	4.4796	4.1802	0.12904E-03
40.	4.4363	4.0555	0.17378E-03
35.	4.3732	3.9044	0.23707E-03
30.	4.2849	3.7488	0.32192E-03
25.	4.1691	3.6111	0.43288E-03
20.	4.0296	3.5126	0.57359E-03
15.	3.8777	3.4691	0.74586E-03
10.	3.7314	3.4754	0.96615E-03

MODE 1

PERIOD	C	U	AMPLITUDE
200.	6.4104	6.0345	0.13889E-05
175.	6.3048	5.3546	0.43177E-05
150.	6.0958	4.8793	0.73401E-05
140.	5.9889	4.7456	0.86221E-05
130.	5.8727	4.6422	0.99749E-05
120.	5.7503	4.5632	0.11463E-04
110.	5.6240	4.5003	0.13206E-04
100.	5.4952	4.4444	0.15392E-04
90.	5.3640	4.3879	0.18269E-04
80.	5.2298	4.3289	0.22058E-04
70.	5.0921	4.2760	0.26681E-04
65.	5.0227	4.2574	0.29055E-04
60.	4.9535	4.2474	0.31119E-04
55.	4.8858	4.2487	0.32328E-04
50.	4.8209	4.2647	0.31740E-04
45.	4.7609	4.2995	0.28077E-04
40.	4.7083	4.3542	0.20788E-04
35.	4.6657	4.4176	0.11980E-04
30.	4.6330	4.4698	0.52248E-05
25.	4.6083	4.5015	0.17119E-05
20.	4.5884	4.5169	0.39786E-06
15.	4.5714	4.5241	0.59107E-07
10.	4.5566	4.5298	0.28124E-07

MODE 2

PERIOD	C	U	AMPLITUDE
100.	6.3992	5.6607	0.29194E-05
90.	6.2573	4.9151	0.71409E-05
80.	6.0396	4.6035	0.10091E-04
70.	5.8030	4.5335	0.11670E-04
65.	5.6891	4.5328	0.12265E-04
60.	5.5794	4.5261	0.13074E-04
55.	5.4716	4.4953	0.14410E-04
50.	5.3617	4.4315	0.16457E-04
45.	5.2455	4.3507	0.18773E-04
40.	5.1233	4.2962	0.19831E-04
35.	5.0023	4.2990	0.17959E-04
30.	4.8924	4.3496	0.13141E-04
25.	4.7999	4.4162	0.73675E-05
20.	4.7247	4.4679	0.29360E-05
15.	4.6618	4.4917	0.73139E-06
10.	4.6059	4.4989	0.25359E-05

MODE 3

PERIOD	C	U	AMPLITUDE
70.	6.4179	6.0137	0.15209E-05
65.	6.3373	5.0994	0.59667E-05
60.	6.1941	4.7047	0.88770E-05
55.	6.0195	4.5217	0.10923E-04
50.	5.8396	4.4918	0.11768E-04
45.	5.6738	4.5521	0.11520E-04
40.	5.5279	4.6033	0.11410E-04
35.	5.3883	4.5317	0.13328E-04
30.	5.2303	4.3799	0.16261E-04
25.	5.0601	4.3499	0.15546E-04
20.	4.9078	4.4138	0.11871E-04
15.	4.7857	4.4796	0.82130E-05
10.	4.6304	3.7796	0.33624E-03

vector, spectral values below or above the tabulated depths can be obtained by continued multiplication of the vector by the Thomson-Haskell matrix or its inverse, respectively, to the desired depths. The accuracy of the results can be estimated by

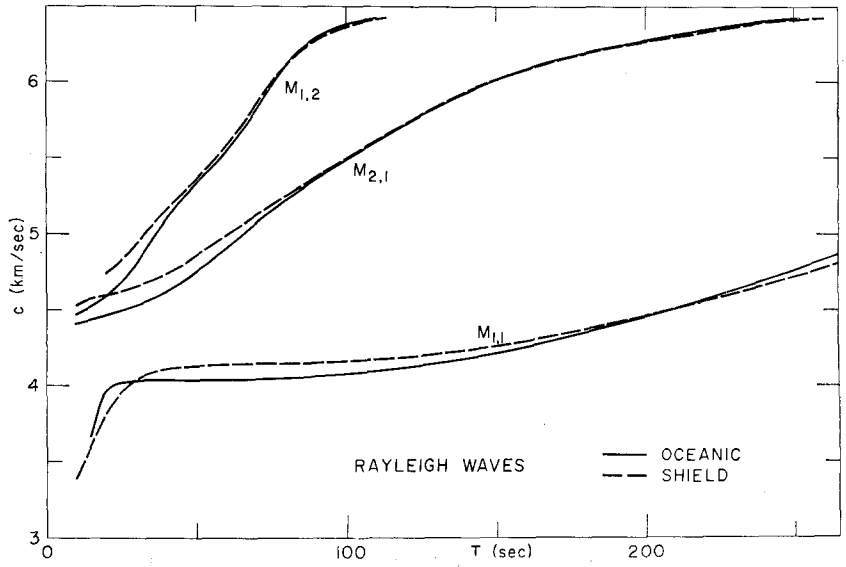

FIG. 2. Rayleigh-wave phase-velocity curves for the fundamental and two higher modes for the oceanic and shield models.

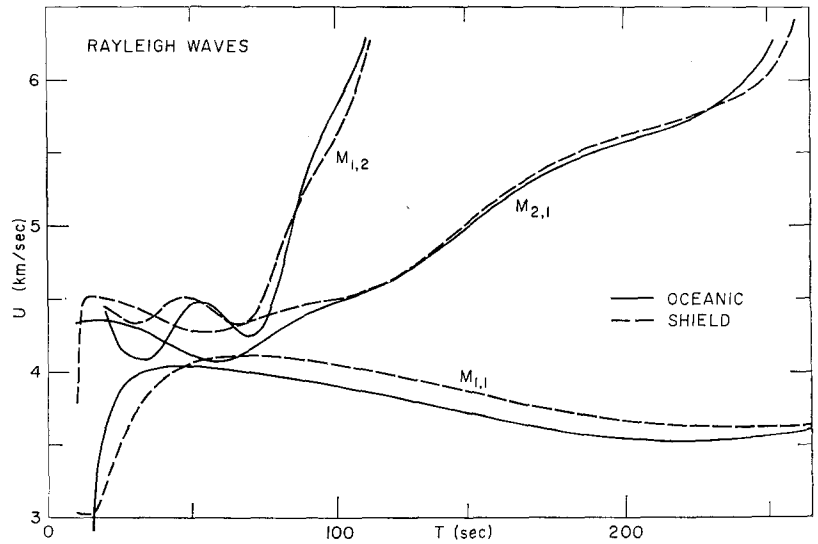

FIG. 3. Rayleigh-wave group-velocity curves for the fundamental and two higher modes for the oceanic and shield models.

comparing two sets of the same intermediate depth values where one set is obtained by downward continuation and the other by upward continuation.

SPECTRAL RATIOS

Using arguments based on the reciprocity theorems of Knopoff and Gangi (1959), Aki (personal communications, 1961) realized that the vertical surface displacement

spectrum of fundamental Rayleigh waves should possess a zero which was dependent on the depth of a horizontal force. This phenomenon was investigated in a series of model experiments (Aki and Healy, personal communications, 1962). Harkrider and

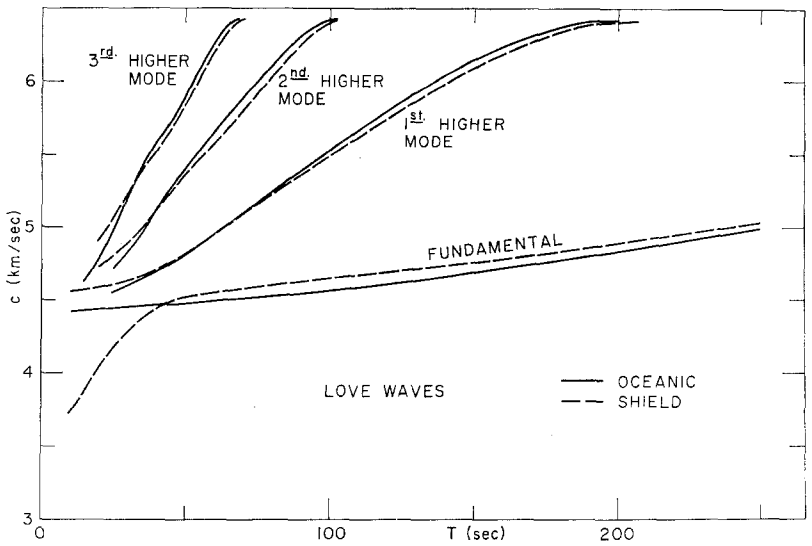

FIG. 4. Love-wave phase-velocity curves for the fundamental and three higher modes for the oceanic and shield models.

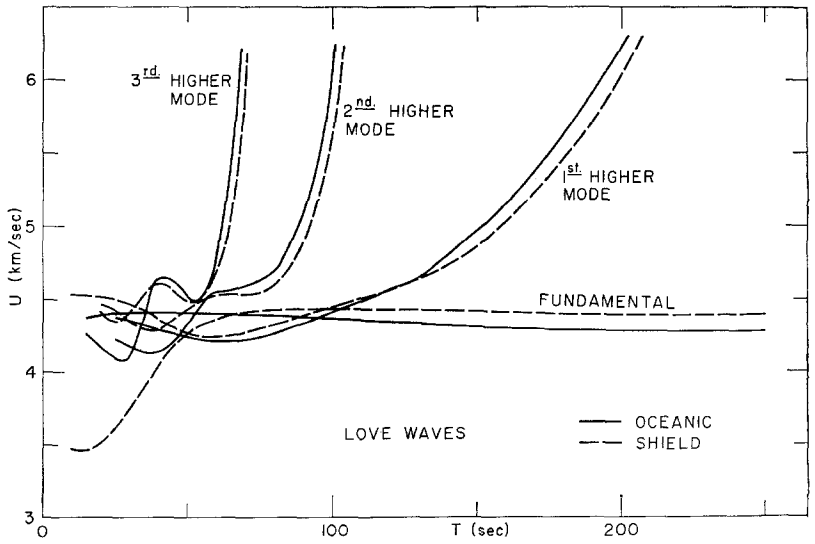

FIG. 5. Love-wave group-velocity curves for the fundamental and three higher modes for the oceanic and shield models.

Anderson (1966) noted that the higher-mode Rayleigh and Love waves possess depth-dependent spectral zeros for vertical as well as horizontal forces.

One of the difficulties encountered in using amplitude spectra for depth determination has been the time-space source function. This function will, in general, have zeros associated with the fault displacement-time function, fault dimensions, and rupture velocity. For stationary point sources, the source factor can be eliminated by dividing

the spectra of different arrivals. This division eliminates all of the effects of distance except the difference in anelastic absorption. For more realistic sources complications arise which will be discussed later.

For small earthquakes, the departure from point-source theory is negligible for periods greater than 20 sec. Tsai (1969) found that the assumption that the source is a

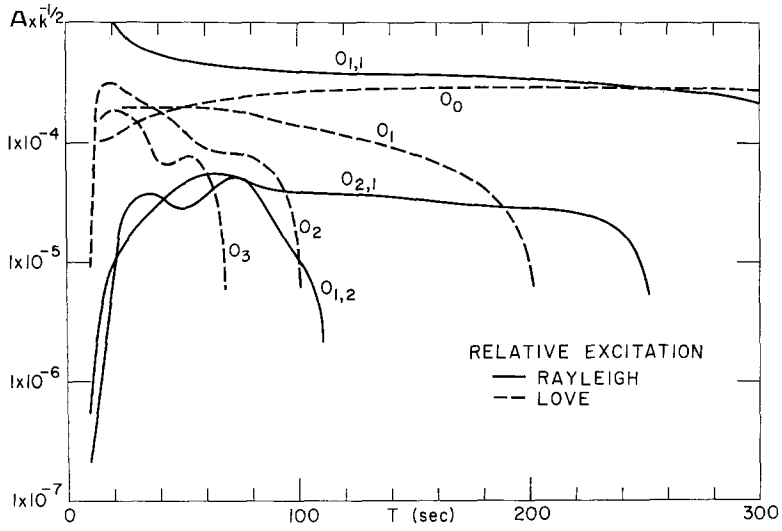

FIG. 6. Relative spectral excitation for the oceanic structure in units of $10^{-12.5}$ cm$^{3/2}$/dyne.

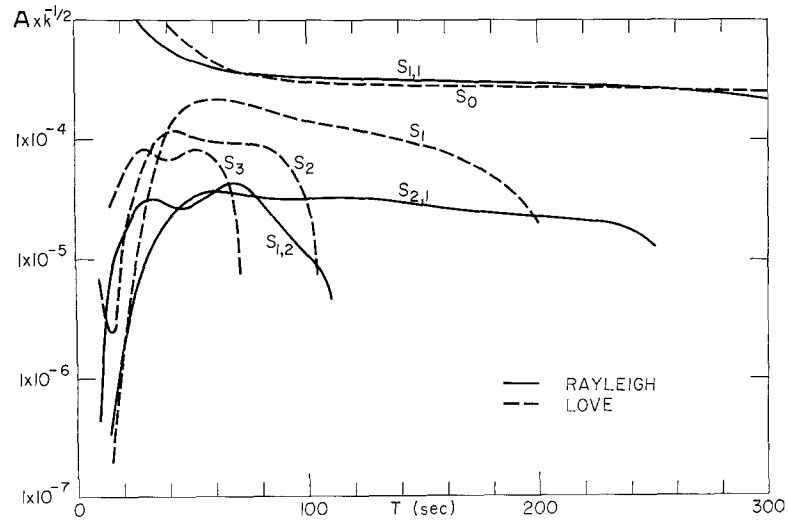

FIG. 7. Relative excitation for the shield structure in units of $10^{-12.5}$ cm$^{3/2}$/dyne.

point in space and a step function in time was adequate for determining the focal depths of earthquakes in the mid-ocean ridges with magnitudes 6.0 or smaller. The depths were determined from the shapes of the Rayleigh-wave spectra by comparing with theoretical spectra from a vertical strike slip fault with a step function rupture in time. The depth estimates were confirmed by observation of P and pP phases.

In order to investigate the use of spectral ratios as a possible measure of source

TABLE 5

SURFACE ELLIPTICITY OF THE FIRST THREE RAYLEIGH-WAVE MODES FOR THE OCEANIC AND SHIELD MODELS

OCEAN

RAYLEIGH

MODE 1,1		MODE 2,1		MODE 1,2	
PERIOD	U0/W0	PERIOD	U0/W0	PERIOD	U0/W0
350.	-0.71550E 00	250.	-0.15954E-00	110.	0.20100E-00
300.	-0.66500E 00	225.	-0.80615E-01	100.	0.15240E-00
250.	-0.63874E 00	200.	-0.28399E-01	90.	0.71850E-01
225.	-0.63640E 00	175.	-0.90086E-02	80.	-0.51615E-01
200.	-0.64016E 00	150.	-0.40598E-01	70.	-0.20640E-00
175.	-0.64882E 00	140.	-0.71730E-01	65.	-0.27333E-00
150.	-0.66133E 00	130.	-0.11358E-00	60.	-0.32896E-00
140.	-0.66725E 00	120.	-0.16439E-00	55.	-0.37620E-00
130.	-0.67368E 00	110.	-0.22123E-00	50.	-0.41954E-00
120.	-0.68065E 00	100.	-0.28099E-00	45.	-0.46388E-00
110.	-0.68824E 00	90.	-0.34150E-00	40.	-0.51292E 00
100.	-0.69660E 00	80.	-0.40231E-00	35.	-0.56473E 00
90.	-0.70593E 00	70.	-0.46468E-00	30.	-0.61104E 00
80.	-0.71654E 00	65.	-0.49661E-00	25.	-0.64123E 00
70.	-0.72881E 00	60.	-0.52852E 00	20.	-0.62725E 00
65.	-0.73570E 00	55.	-0.55966E 00	15.	-0.30053E-00
60.	-0.74316E 00	50.	-0.58933E 00	10.	-0.17583E 01
55.	-0.75123E 00	45.	-0.61702E 00		
50.	-0.75994E 00	40.	-0.64234E 00		
45.	-0.76927E 00	35.	-0.66461E 00		
40.	-0.77914E 00	30.	-0.68199E 00		
35.	-0.78918E 00	25.	-0.68846E 00		
30.	-0.79826E 00	20.	-0.65740E 00		
25.	-0.80212E 00	15.	-0.32418E-00		
20.	-0.78041E 00	10.	-0.17891E 01		
15.	-0.56249E 00				
10.	-0.25545E-01				

SHIELD

RAYLEIGH

MODE 1,1		MODE 2,1		MODE 1,2	
PERIOD	U0/W0	PERIOD	U0/W0	PERIOD	U0/W0
350.	-0.74245E 00	250.	-0.21130E-00	110.	-0.22614E-01
300.	-0.71904E 00	225.	-0.16155E-00	100.	-0.81079E-01
250.	-0.72266E 00	200.	-0.13659E-00	90.	-0.16512E-00
225.	-0.73475E 00	175.	-0.14435E-00	80.	-0.27977E-00
200.	-0.75282E 00	150.	-0.20132E-00	70.	-0.42435E-00
175.	-0.77623E 00	140.	-0.24182E-00	65.	-0.49907E-00
150.	-0.80442E 00	130.	-0.29273E-00	60.	-0.55123E 00
140.	-0.81688E 00	120.	-0.35238E-00	55.	-0.59732E 00
130.	-0.82993E 00	110.	-0.41776E-00	50.	-0.63176E 00
120.	-0.84347E 00	100.	-0.48547E-00	45.	-0.65523E 00
110.	-0.85734E 00	90.	-0.55264E 00	40.	-0.66740E 00
100.	-0.87131E 00	80.	-0.61726E 00	35.	-0.66540E 00
90.	-0.88497E 00	70.	-0.67771E 00	30.	-0.64143E 00
80.	-0.89756E 00	65.	-0.70555E 00	25.	-0.58380E 00
70.	-0.90772E 00	60.	-0.73084E 00	20.	-0.48283E-00
65.	-0.91116E 00	55.	-0.75228E 00	15.	-0.34497E-00
60.	-0.91286E 00	50.	-0.76800E 00	10.	-0.25570E-00
55.	-0.91210E 00	45.	-0.77554E 00		
50.	-0.90788E 00	40.	-0.77173E 00		
45.	-0.89877E 00	35.	-0.75223E 00		
40.	-0.88283E 00	30.	-0.71097E 00		
35.	-0.85759E 00	25.	-0.63978E 00		
30.	-0.82052E 00	20.	-0.53030E 00		
25.	-0.77111E 00	15.	-0.38507E-00		
20.	-0.71670E 00	10.	-0.26862E-00		
15.	-0.67729E 00				
10.	-0.66913E 00				

depth, we have evaluated the ratio of various surface-wave modes as a function of period and depth. The calculations are for a double-couple source with an oceanic propagation path. The orientation of the double couple was chosen in order to represent the far-field spectra from a vertical strike-slip fault. The station aximuth is 22.5° from the fault plane.

The ratio of fundamental Rayleigh to Love spectra are shown in Figure 8. The ratio

TABLE 6

Eigenfunctions for the Rayleigh- and Love-wave Modes at a Depth of 10 km in the Oceanic Model

OCEAN

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 10 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.69844E 00	0.10042E 01	0.18617E 01	-0.12556E-00
300.	-0.64420E 00	0.10046L 01	0.20782E 01	-0.23458E-00
250.	-0.61222E 00	0.10055E 01	0.23426E 01	-0.42961E-00
225.	-0.60591E 00	0.10062E 01	0.25144E 01	-0.57229E 00
200.	-0.60472E 00	0.10072E 01	0.27348E 01	-0.75352E 00
175.	-0.60711E 00	0.10084E 01	0.30305E 01	-0.98339E 00
150.	-0.61143E 00	0.10100E 01	0.34434E 01	-0.12788E 01
140.	-0.61334E 00	0.10108E 01	0.36562E 01	-0.14215E 01
130.	-0.61518E 00	0.10116E 01	0.39056E 01	-0.15826E 01
120.	-0.61687E 00	0.10126E 01	0.42010E 01	-0.17662E 01
110.	-0.61828E 00	0.10136E 01	0.45547E 01	-0.19784E 01
100.	-0.61930E 00	0.10148E 01	0.49843E 01	-0.22278E 01
90.	-0.61975E 00	0.10162E 01	0.55147E 01	-0.25271E 01
80.	-0.61937E 00	0.10177E 01	0.61835E 01	-0.28954E 01
70.	-0.61763E 00	0.10193E 01	0.70501E 01	-0.33626E 01
65.	-0.61596E 00	0.10202E 01	0.75862E 01	-0.36473E 01
60.	-0.61348E 00	0.10210E 01	0.82136E 01	-0.39771E 01
55.	-0.60988E 00	0.10218E 01	0.89574E 01	-0.43638E 01
50.	-0.60468E 00	0.10224E 01	0.98528E 01	-0.48239E 01
45.	-0.59716E 00	0.10225E 01	0.10950E 02	-0.53807E 01
40.	-0.58618E 00	0.10219E 01	0.12325E 02	-0.60695E 01
35.	-0.56984E 00	0.10194E 01	0.14094E 02	-0.69458E 01
30.	-0.54468E 00	0.10131E 01	0.16453E 02	-0.81016E 01
25.	-0.50322E 00	0.99716E 00	0.19753E 02	-0.96933E 01
20.	-0.42429E-00	0.95010E 00	0.24726E 02	-0.11954E 02
15.	-0.19992E-00	0.72161E 00	0.32864E 02	-0.14448E 02
10.	0.49271E-01	0.15415E-00	0.14397E 02	-0.76942E 01

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	-0.13990E-00	0.10004E 01	0.31512E 01	0.69179E-01
225.	-0.58646E-01	0.99973E 00	0.34707E 01	0.24940E-01
200.	-0.33813E-02	0.99908E 00	0.38497E 01	-0.87451E-02
175.	0.20075E-01	0.99854E 00	0.43209E 01	-0.25727E-01
150.	-0.57669E-02	0.99840E 00	0.49162E 01	-0.20091E-01
140.	-0.33859E-01	0.99856E 00	0.51978E 01	-0.14517E-01
130.	-0.72074E-01	0.99891E 00	0.55110E 01	-0.13246E-01
120.	-0.11850E-00	0.99945E 00	0.58648E 01	-0.24347E-01
110.	-0.17002E-00	0.10002E 01	0.62734E 01	-0.58080E-01
100.	-0.22328E-00	0.10011E 01	0.67571E 01	-0.12610E-00
90.	-0.27569E-00	0.10022E 01	0.73421E 01	-0.24317E-00
80.	-0.32620E-00	0.10035E 01	0.80606E 01	-0.43411E-00
70.	-0.37491E-00	0.10051E 01	0.89567E 01	-0.74640E 00
65.	-0.39828E-00	0.10060E 01	0.94957E 01	-0.97034E 00
60.	-0.42016E-00	0.10069E 01	0.10121E 02	-0.12517E 01
55.	-0.43941E-00	0.10077E 01	0.10865E 02	-0.15968E 01
50.	-0.45498E-00	0.10083E 01	0.11772E 02	-0.20132E 01
45.	-0.46573E-00	0.10083E 01	0.12906E 02	-0.25112E 01
40.	-0.47032E-00	0.10073E 01	0.14358E 02	-0.31093E 01
35.	-0.46664E-00	0.10042E 01	0.16271E 02	-0.38377E 01
30.	-0.45078E-00	0.99650E 00	0.18892E 02	-0.47457E 01
25.	-0.41403E-00	0.97770E 00	0.22701E 02	-0.59016E 01
20.	-0.33076E-00	0.92368E 00	0.28879E 02	-0.73341E 01
15.	-0.30617E-01	0.63679E 00	0.43550E 02	-0.77380E 01
10.	-0.56107E 00	0.14777E 01	0.34042E 02	-0.20210E 02

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.24477E-00	0.99271E 00	0.71427E 01	-0.33195E-00
100.	0.20092E-00	0.99241E 00	0.78106E 01	-0.29750E-00
90.	0.12673E-00	0.99259E 00	0.85694E 01	-0.21321E-00
80.	0.12415E-01	0.99370E 00	0.93877E 01	-0.88602E-01
70.	-0.12876E-00	0.99598E 00	0.10245E 02	-0.56233E-01
65.	-0.18722E-00	0.99706E 00	0.10771E 02	-0.12808E-00
60.	-0.23322E-00	0.99783E 00	0.11422E 02	-0.25188E-00
55.	-0.26937E-00	0.99823E 00	0.12230E 02	-0.42186E-00
50.	-0.29956E-00	0.99824E 00	0.13223E 02	-0.64946E 00
45.	-0.32767E-00	0.99785E 00	0.14429E 02	-0.97419E 00
40.	-0.35589E-00	0.99691E 00	0.15885E 02	-0.14743E 01
35.	-0.38050E-00	0.99460E 00	0.17699E 02	-0.22414E 01
30.	-0.39140E-00	0.98826E 00	0.20144E 02	-0.33235E 01
25.	-0.37585E-00	0.97097E 00	0.23751E 02	-0.47438E 01
20.	-0.30735E-00	0.91826E 00	0.29755E 02	-0.64880E 01
15.	-0.13657E-01	0.63002E 00	0.44487E 02	-0.73463E 01
10.	-0.54209E 00	0.14633E 01	0.35017E 02	-0.18457E 02

LOVE

MODE 0

PERIOD	VM/VO	YM/VO/K
350.	0.99968E 00	0.80452E 00
300.	0.99958E 00	0.86557E 00
250.	0.99941E 00	0.94905E 00
225.	0.99928E 00	0.10055E 01
200.	0.99910E 00	0.10777E 01
175.	0.99884E 00	0.11730E 01
150.	0.99844E 00	0.13037E 01
140.	0.99822E 00	0.13704E 01
130.	0.99794E 00	0.14482E 01
120.	0.99760E 00	0.15400E 01
110.	0.99716E 00	0.16496E 01
100.	0.99658E 00	0.17826E 01
90.	0.99579E 00	0.19468E 01
80.	0.99470E 00	0.21539E 01
70.	0.99311E 00	0.24223E 01
65.	0.99202E 00	0.25883E 01
60.	0.99066E 00	0.27825E 01
55.	0.98891E 00	0.30122E 01
50.	0.98661E 00	0.32881E 01
45.	0.98351E 00	0.36247E 01
40.	0.97918E 00	0.40439E 01
35.	0.97289E 00	0.45787E 01
30.	0.96324E 00	0.52818E 01
25.	0.94736E 00	0.62416E 01
20.	0.91850E 00	0.76139E 01
15.	0.85772E 00	0.96777E 01
10.	0.69619E 00	0.12582E 02

MODE 1

PERIOD	VM/VO	YM/VO/K
200.	0.99894E 00	0.20631E 01
175.	0.99862E 00	0.23032E 01
150.	0.99815E 00	0.25360E 01
140.	0.99789E 00	0.26284E 01
130.	0.99758E 00	0.27228E 01
120.	0.99719E 00	0.28223E 01
110.	0.99670E 00	0.29306E 01
100.	0.99606E 00	0.30516E 01
90.	0.99521E 00	0.31896E 01
80.	0.99404E 00	0.33509E 01
70.	0.99237E 00	0.35487E 01
65.	0.99125E 00	0.36696E 01
60.	0.98984E 00	0.38126E 01
55.	0.98805E 00	0.39861E 01
50.	0.98571E 00	0.42016E 01
45.	0.98256E 00	0.44752E 01
40.	0.97818E 00	0.48300E 01
35.	0.97183E 00	0.53008E 01
30.	0.96209E 00	0.59428E 01
25.	0.94608E 00	0.68485E 01
20.	0.91697E 00	0.81825E 01
15.	0.85569E 00	0.10236E 02
10.	0.69474E 00	0.12838E 02

MODE 2

PERIOD	VM/VO	YM/VO/K
100.	0.99577E 00	0.41173E 01
90.	0.99481E 00	0.44363E 01
80.	0.99353E 00	0.46871E 01
70.	0.99170E 00	0.49501E 01
65.	0.99047E 00	0.51126E 01
60.	0.98894E 00	0.53029E 01
55.	0.98700E 00	0.55183E 01
50.	0.98449E 00	0.57479E 01
45.	0.98117E 00	0.59811E 01
40.	0.97666E 00	0.62319E 01
35.	0.97020E 00	0.65493E 01
30.	0.96040E 00	0.70067E 01
25.	0.94438E 00	0.77067E 01
20.	0.91536E 00	0.88117E 01
15.	0.85446E 00	0.10584E 02
10.	0.69068E 00	0.13565E 02

MODE 3

PERIOD	VM/VO	YM/VO/K
65.	0.99002E 00	0.62576E 01
60.	0.98838E 00	0.65377E 01
55.	0.98635E 00	0.67432E 01
50.	0.98374E 00	0.69559E 01
45.	0.98023E 00	0.72654E 01
40.	0.97535E 00	0.77100E 01
35.	0.96840E 00	0.82148E 01
30.	0.95818E 00	0.86283E 01
25.	0.94189E 00	0.90957E 01
20.	0.91271E 00	0.99120E 01
15.	0.85157E 00	0.11430E 02
10.	0.68762E 00	0.14129E 02

TABLE 7

SHIELD

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 10 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.70824E 00	0.10077E 01	0.23998E 01	-0.38319E-00
300.	-0.67738E 00	0.10090E 01	0.26700E 01	-0.63224E 00
250.	-0.66998E 00	0.10113E 01	0.30132E 01	-0.10647E 01
225.	-0.67469E 00	0.10130E 01	0.32413E 01	-0.13762E 01
200.	-0.68370E 00	0.10152E 01	0.35337E 01	-0.17719E 01
175.	-0.69580E 00	0.10181E 01	0.39220E 01	-0.22779E 01
150.	-0.70951E 00	0.10220E 01	0.44563E 01	-0.29368E 01
140.	-0.71495E 00	0.10238E 01	0.47285E 01	-0.32579E 01
130.	-0.72006E 00	0.10260E 01	0.50456E 01	-0.36214E 01
120.	-0.72453E 00	0.10284E 01	0.54185E 01	-0.40363E 01
110.	-0.72792E 00	0.10311E 01	0.58617E 01	-0.45143E 01
100.	-0.72961E 00	0.10342E 01	0.63954E 01	-0.50719E 01
90.	-0.72862E 00	0.10379E 01	0.70476E 01	-0.57315E 01
80.	-0.72340E 00	0.10420E 01	0.78593E 01	-0.65248E 01
70.	-0.71132E 00	0.10467E 01	0.88916E 01	-0.74982E 01
65.	-0.70137E 00	0.10492E 01	0.95184E 01	-0.80723E 01
60.	-0.68773E 00	0.10517E 01	0.10240E 02	-0.87189E 01
55.	-0.66916E 00	0.10542E 01	0.11077E 02	-0.94515E 01
50.	-0.64397E 00	0.10564E 01	0.12057E 02	-0.10287E 02
45.	-0.60975E 00	0.10580E 01	0.13216E 02	-0.11242E 02
40.	-0.56311E 00	0.10583E 01	0.14596E 02	-0.12341E 02
35.	-0.49932E-00	0.10559E 01	0.16247E 02	-0.13605E 02
30.	-0.41220E-00	0.10484E 01	0.18212E 02	-0.15056E 02
25.	-0.29533E-00	0.10312E 01	0.20455E 02	-0.16730E 02
20.	-0.14747E-00	0.99597E 00	0.22635E 02	-0.18709E 02
15.	0.16103E-01	0.92691E 00	0.23678E 02	-0.20934E 02
10.	0.15517E-00	0.78326E 00	0.21554E 02	-0.21783E 02

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	-0.17196E-00	0.10016E 01	0.41142E 01	0.12375E-00
225.	-0.11748E-00	0.10010E 01	0.45271E 01	0.78273E-01
200.	-0.86391E-01	0.10005E 01	0.50259E 01	0.45060E-01
175.	-0.86024E-01	0.10005E 01	0.56488E 01	0.27667E-01
150.	-0.13156E-00	0.10014E 01	0.64362E 01	0.14232E-01
140.	-0.16606E-00	0.10023E 01	0.68077E 01	-0.51803E-02
130.	-0.20982E-00	0.10036E 01	0.72190E 01	-0.49899E-01
120.	-0.26091E-00	0.10054E 01	0.76810E 01	-0.13902E-00
110.	-0.31602E-00	0.10078E 01	0.82118E 01	-0.29492E-00
100.	-0.37134E-00	0.10107E 01	0.88383E 01	-0.54116E 00
90.	-0.42342E-00	0.10141E 01	0.95967E 01	-0.90498E 00
80.	-0.46935E-00	0.10182E 01	0.10533E 02	-0.14268E 01
70.	-0.50602E 00	0.10230E 01	0.11709E 02	-0.21757E 01
65.	-0.51939E 00	0.10256E 01	0.12415E 02	-0.26673E 01
60.	-0.52798E 00	0.10283E 01	0.13223E 02	-0.32557E 01
55.	-0.53002E 00	0.10310E 01	0.14163E 02	-0.39503E 01
50.	-0.52297E 00	0.10333E 01	0.15279E 02	-0.47520E 01
45.	-0.50347E 00	0.10347E 01	0.16638E 02	-0.56494E 01
40.	-0.46687E-00	0.10340E 01	0.18336E 02	-0.66153E 01
35.	-0.40652E-00	0.10294E 01	0.20519E 02	-0.75929E 01
30.	-0.31228E-00	0.10169E 01	0.23424E 02	-0.84639E 01
25.	-0.16845E-00	0.98820E 00	0.27453E 02	-0.89729E 01
20.	0.48426E-01	0.92404E 00	0.33343E 02	-0.85665E 01
15.	0.36667E-00	0.77486E 00	0.42478E 02	-0.61210E 01
10.	0.77115E 00	0.39027E-00	0.55998E 02	0.10837E-00

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.66142E-01	0.99499E 00	0.93249E 01	-0.17489E-00
100.	0.17559E-01	0.99572E 00	0.10181E 02	-0.10661E-00
90.	-0.53580E-01	0.99742E 00	0.11165E 02	-0.15347E-01
80.	-0.15067E-00	0.10007E 01	0.12275E 02	0.31543E-01
70.	-0.27036E-00	0.10065E 01	0.13474E 02	-0.19491E-00
65.	-0.32352E-00	0.10099E 01	0.14160E 02	-0.49823E-00
60.	-0.36399E-00	0.10132E 01	0.14971E 02	-0.92340E 00
55.	-0.38989E-00	0.10161E 01	0.15959E 02	-0.14494E 01
50.	-0.40094E-00	0.10182E 01	0.17171E 02	-0.20700E 01
45.	-0.39661E-00	0.10193E 01	0.18655E 02	-0.28050E 01
40.	-0.37481E-00	0.10185E 01	0.20462E 02	-0.37012E 01
35.	-0.33003E-00	0.10144E 01	0.22671E 02	-0.48016E 01
30.	-0.25063E-00	0.10030E 01	0.25470E 02	-0.60294E 01
25.	-0.11805E-00	0.97544E 00	0.29289E 02	-0.70466E 01
20.	0.91869E-01	0.91182E 00	0.34919E 02	-0.71754E 01
15.	0.40370E-00	0.76262E 00	0.43741E 02	-0.52535E 01
10.	0.78163E 00	0.38524E-00	0.56380E 02	0.23849E-00

LOVE

MODE 0

PERIOD	VM/VO	YM/VO/K
350.	0.99928E 00	0.13711E 01
300.	0.99906E 00	0.14813E 01
250.	0.99872E 00	0.16336E 01
225.	0.99847E 00	0.17367E 01
200.	0.99812E 00	0.18679E 01
175.	0.99762E 00	0.20402E 01
150.	0.99687E 00	0.22745E 01
140.	0.99645E 00	0.23932E 01
130.	0.99594E 00	0.25311E 01
120.	0.99529E 00	0.26928E 01
110.	0.99447E 00	0.28848E 01
100.	0.99340E 00	0.31157E 01
90.	0.99196E 00	0.33977E 01
80.	0.98997E 00	0.37483E 01
70.	0.98711E 00	0.41926E 01
65.	0.98518E 00	0.44602E 01
60.	0.98279E 00	0.47649E 01
55.	0.97977E 00	0.51113E 01
50.	0.97592E 00	0.55017E 01
45.	0.97093E 00	0.59309E 01
40.	0.96445E 00	0.63783E 01
35.	0.95600E 00	0.68004E 01
30.	0.94495E 00	0.71307E 01
25.	0.93050E 00	0.72815E 01
20.	0.91147E 00	0.71486E 01
15.	0.88561E 00	0.66357E 01
10.	0.84662E 00	0.56678E 01

MODE 1

PERIOD	VM/VO	YM/VO/K
200.	0.99726E 00	0.35661E 01
175.	0.99648E 00	0.39479E 01
150.	0.99536E 00	0.43087E 01
140.	0.99478E 00	0.44514E 01
130.	0.99407E 00	0.45989E 01
120.	0.99321E 00	0.47571E 01
110.	0.99215E 00	0.49332E 01
100.	0.99080E 00	0.51349E 01
90.	0.98904E 00	0.53705E 01
80.	0.98669E 00	0.56498E 01
70.	0.98344E 00	0.59891E 01
65.	0.98130E 00	0.61916E 01
60.	0.97867E 00	0.64261E 01
55.	0.97537E 00	0.67054E 01
50.	0.97111E 00	0.70498E 01
45.	0.96542E 00	0.74914E 01
40.	0.95751E 00	0.80818E 01
35.	0.94593E 00	0.88988E 01
30.	0.92804E 00	0.10050E 02
25.	0.89846E 00	0.11693E 02
20.	0.84479E 00	0.14101E 02
15.	0.73258E 00	0.17773E 02
10.	0.43789E-00	0.23284E 02

MODE 2

PERIOD	VM/VO	YM/VO/K
100.	0.98909E 00	0.70893E 01
90.	0.98681E 00	0.75409E 01
80.	0.98389E 00	0.78977E 01
70.	0.97988E 00	0.82836E 01
65.	0.97724E 00	0.85285E 01
60.	0.97397E 00	0.88239E 01
55.	0.96988E 00	0.91744E 01
50.	0.96467E 00	0.95774E 01
45.	0.95794E 00	0.10028E 02
40.	0.94899E 00	0.10541E 02
35.	0.93649E 00	0.11188E 02
30.	0.91776E 00	0.12106E 02
25.	0.88725E 00	0.13498E 02
20.	0.83220E 00	0.15662E 02
15.	0.71796E 00	0.19060E 02
10.	0.42168E-00	0.24118E 02

MODE 3

PERIOD	VM/VO	YM/VO/K
70.	0.97772E 00	0.10145E 02
65.	0.97446E 00	0.10655E 02
60.	0.97068E 00	0.11029E 02
55.	0.96613E 00	0.11341E 02
50.	0.96041E 00	0.11679E 02
45.	0.95287E 00	0.12143E 02
40.	0.94249E 00	0.12810E 02
35.	0.92780E 00	0.13681E 02
30.	0.90665E 00	0.14663E 02
25.	0.87406E 00	0.15856E 02
20.	0.81696E 00	0.17696E 02
15.	0.69939E 00	0.20778E 02
10.	0.41383E-00	0.24529E 02

TABLE 8

OCEAN

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 35 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.61604E 00	0.10216E 01	0.97874E 01	-0.56897E 01
300.	-0.54458E 00	0.10233E 01	0.10843E 02	-0.68990E 01
250.	-0.48691E-00	0.10268E 01	0.12036E 02	-0.90801E 01
225.	-0.46344E-00	0.10296E 01	0.12759E 02	-0.10685E 02
200.	-0.44140E-00	0.10331E 01	0.13645E 02	-0.12714E 02
175.	-0.41826E-00	0.10374E 01	0.14783E 02	-0.15247E 02
150.	-0.39081E-00	0.10423E 01	0.16305E 02	-0.18410E 02
140.	-0.37770E-00	0.10444E 01	0.17062E 02	-0.19893E 02
130.	-0.36286E-00	0.10465E 01	0.17929E 02	-0.21526E 02
120.	-0.34588E-00	0.10486E 01	0.18927E 02	-0.23334E 02
110.	-0.32625E-00	0.10505E 01	0.20084E 02	-0.25348E 02
100.	-0.30332E-00	0.10521E 01	0.21432E 02	-0.27608E 02
90.	-0.27628E-00	0.10530E 01	0.23012E 02	-0.30166E 02
80.	-0.24403E-00	0.10526E 01	0.24876E 02	-0.33084E 02
70.	-0.20506E-00	0.10498E 01	0.27083E 02	-0.36427E 02
65.	-0.18243E-00	0.10469E 01	0.28336E 02	-0.38275E 02
60.	-0.15724E-00	0.10424E 01	0.29701E 02	-0.40239E 02
55.	-0.12909E-00	0.10355E 01	0.31183E 02	-0.42309E 02
50.	-0.97517E-01	0.10253E 01	0.32783E 02	-0.44449E 02
45.	-0.62003E-01	0.10098E 01	0.34485E 02	-0.46589E 02
40.	-0.22114E-01	0.98645E 00	0.36240E 02	-0.48587E 02
35.	0.22224E-01	0.95026E 00	0.37915E 02	-0.50165E 02
30.	0.69919E-01	0.89266E 00	0.39177E 02	-0.50766E 02
25.	0.11645E-00	0.79707E 00	0.39178E 02	-0.49207E 02
20.	0.14698E-00	0.62674E 00	0.35600E 02	-0.42615E 02
15.	0.10099E-00	0.25598E-00	0.19268E 02	-0.20423E 02
10.	0.61347E-03	0.64233E-03	0.36454E-01	-0.13626E-00

LOVE

MODE 0

PERIOD	VM/VO	YM/VO/K
350.	0.99743E 00	0.29445E 01
300.	0.99689E 00	0.28323E 01
250.	0.99613E 00	0.26535E 01
225.	0.99561E 00	0.25391E 01
200.	0.99494E 00	0.24077E 01
175.	0.99404E 00	0.22582E 01
150.	0.99276E 00	0.20889E 01
140.	0.99207E 00	0.20151E 01
130.	0.99125E 00	0.19374E 01
120.	0.99023E 00	0.18558E 01
110.	0.98896E 00	0.17700E 01
100.	0.98732E 00	0.16801E 01
90.	0.98515E 00	0.15860E 01
80.	0.98217E 00	0.14882E 01
70.	0.97790E 00	0.13878E 01
65.	0.97501E 00	0.13372E 01
60.	0.97141E 00	0.12868E 01
55.	0.96680E 00	0.12374E 01
50.	0.96079E 00	0.11899E 01
45.	0.95272E 00	0.11458E 01
40.	0.94153E 00	0.11078E 01
35.	0.92534E 00	0.10806E 01
30.	0.90067E 00	0.10741E 01
25.	0.86034E 00	0.11131E 01
20.	0.78761E 00	0.12763E 01
15.	0.63493E 00	0.19201E 01
10.	0.23949E-00	0.45782E 01

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	-0.42384E-01	0.99918E 00	0.16786E 02	-0.73414E 00
225.	0.50534E-01	0.99446E 00	0.18468E 02	-0.40859E-00
200.	0.12107E-00	0.98961E 00	0.20462E 02	-0.91158E-01
175.	0.16474E-00	0.98482E 00	0.22939E 02	0.15827E-00
150.	0.16695E-00	0.98123E 00	0.26050E 02	0.52524E-01
140.	0.15334E-00	0.98056E 00	0.27506E 02	-0.22788E-00
130.	0.13212E-00	0.98047E 00	0.29106E 02	-0.73754E 00
120.	0.10566E-00	0.98092E 00	0.30879E 02	-0.15471E 01
110.	0.77625E-01	0.98169E 00	0.32874E 02	-0.27201E 01
100.	0.52084E-01	0.98240E 00	0.35155E 02	-0.43114E 01
90.	0.32621E-01	0.98248E 00	0.37793E 02	-0.63865E 01
80.	0.21852E-01	0.98121E 00	0.40836E 02	-0.90702E 01
70.	0.21704E-01	0.97753E 00	0.44267E 02	-0.12600E 02
65.	0.26550E-01	0.97413E 00	0.46120E 02	-0.14764E 02
60.	0.35714E-01	0.96893E 00	0.48089E 02	-0.17193E 02
55.	0.50498E-01	0.96089E 00	0.50236E 02	-0.19821E 02
50.	0.71744E-01	0.94841E 00	0.52640E 02	-0.22545E 02
45.	0.10098E-00	0.92904E 00	0.55398E 02	-0.25204E 02
40.	0.13941E-00	0.89877E 00	0.58608E 02	-0.27550E 02
35.	0.18859E-00	0.85065E 00	0.62376E 02	-0.29137E 02
30.	0.25022E-00	0.77167E 00	0.66781E 02	-0.29086E 02
25.	0.32580E-00	0.63454E 00	0.71831E 02	-0.25450E 02
20.	0.41449E-00	0.37075E-00	0.77183E 02	-0.13149E 02
15.	0.49775E-00	-0.32860E-00	0.79309E 02	0.30591E 02
10.	0.74142E 00	-0.44282E-00	0.11363E 03	0.39310E 02

MODE 1

PERIOD	VM/VO	YM/VO/K
200.	0.98819E 00	0.10402E 02
175.	0.98489E 00	0.11446E 02
150.	0.98047E 00	0.12144E 02
140.	0.97828E 00	0.12299E 02
130.	0.97576E 00	0.12378E 02
120.	0.97283E 00	0.12382E 02
110.	0.96938E 00	0.12308E 02
100.	0.96527E 00	0.12142E 02
90.	0.96031E 00	0.11854E 02
80.	0.95429E 00	0.11397E 02
70.	0.94682E 00	0.10728E 02
65.	0.94231E 00	0.10309E 02
60.	0.93706E 00	0.98381E 01
55.	0.93079E 00	0.93226E 01
50.	0.92305E 00	0.87722E 01
45.	0.91313E 00	0.81981E 01
40.	0.89985E 00	0.76136E 01
35.	0.88117E 00	0.70360E 01
30.	0.85322E 00	0.64921E 01
25.	0.80803E 00	0.60337E 01
20.	0.72697E 00	0.57869E 01
15.	0.55833E 00	0.61298E 01
10.	0.19142E-00	0.63027E 01

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.46331E-00	0.94236E 00	0.37473E 02	0.21368E 01
100.	0.44218E-00	0.93719E 00	0.40878E 02	0.19870E 01
90.	0.39752E-00	0.93327E 00	0.44724E 02	0.15219E 01
80.	0.32375E-00	0.93202E 00	0.48786E 02	0.31361E-00
70.	0.23828E-00	0.93285E 00	0.52680E 02	-0.24519E 01
65.	0.21223E-00	0.93069E 00	0.54860E 02	-0.42855E 01
60.	0.20134E-00	0.92500E 00	0.57444E 02	-0.62007E 01
55.	0.20358E-00	0.91485E 00	0.60527E 02	-0.81413E 01
50.	0.21592E-00	0.89927E 00	0.64095E 02	-0.10175E 02
45.	0.23527E-00	0.87694E 00	0.67981E 02	-0.12483E 02
40.	0.25937E-00	0.84543E 00	0.71804E 02	-0.15273E 02
35.	0.28966E-00	0.79876E 00	0.75213E 02	-0.18322E 02
30.	0.33139E-00	0.72310E 00	0.78282E 02	-0.20413E 02
25.	0.38806E-00	0.59015E 00	0.81247E 02	-0.19091E 02
20.	0.45776E-00	0.33157E-00	0.83891E 02	-0.89964E 01
15.	0.50850E 00	-0.35053E-00	0.80996E 02	0.31502E 02
10.	0.81010E 00	-0.59616E 00	0.12400E 03	0.50207E 02

MODE 2

PERIOD	VM/VO	YM/VO/K
100.	0.95311E 00	0.20522E 02
90.	0.94368E 00	0.21662E 02
80.	0.93274E 00	0.21930E 02
70.	0.91884E 00	0.21794E 02
65.	0.91003E 00	0.21709E 02
60.	0.89952E 00	0.21609E 02
55.	0.88702E 00	0.21415E 02
50.	0.87249E 00	0.20960E 02
45.	0.85608E 00	0.20048E 02
40.	0.83749E 00	0.18622E 02
35.	0.81508E 00	0.16807E 02
30.	0.78518E 00	0.14768E 02
25.	0.74048E 00	0.12632E 02
20.	0.66444E 00	0.10511E 02
15.	0.51319E 00	0.86002E 01
10.	0.65476E-01	0.10636E 02

MODE 3

PERIOD	VM/VO	YM/VO/K
65.	0.89122E 00	0.30402E 02
60.	0.87653E 00	0.30955E 02
55.	0.86070E 00	0.30659E 02
50.	0.84211E 00	0.30043E 02
45.	0.81796E 00	0.29651E 02
40.	0.78522E 00	0.29579E 02
35.	0.74366E 00	0.29011E 02
30.	0.69832E 00	0.26510E 02
25.	0.64514E 00	0.22545E 02
20.	0.56552E 00	0.18171E 02
15.	0.41090E-00	0.14169E 02
10.	-0.21993E-01	0.13461E 02

TABLE 9

SHIELD

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 20 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.67414E 00	0.10143E 01	0.49792E 01	-0.88246E 00
300.	-0.63611E 00	0.10164E 01	0.55315E 01	-0.13998E 01
250.	-0.61828E 00	0.10202E 01	0.62230E 01	-0.22888E 01
225.	-0.61616E 00	0.10231E 01	0.66773E 01	-0.29243E 01
200.	-0.61695E 00	0.10267E 01	0.72552E 01	-0.37266E 01
175.	-0.61904E 00	0.10314E 01	0.80161E 01	-0.47456E 01
150.	-0.62031E 00	0.10372E 01	0.90530E 01	-0.60614E 01
140.	-0.61990E 00	0.10400E 01	0.95774E 01	-0.66985E 01
130.	-0.61852E 00	0.10430E 01	0.10185E 02	-0.74162E 01
120.	-0.61575E 00	0.10464E 01	0.10895E 02	-0.82307E 01
110.	-0.61102E 00	0.10500E 01	0.11732E 02	-0.91635E 01
100.	-0.60352E 00	0.10538E 01	0.12732E 02	-0.10243E 02
90.	-0.59205E 00	0.10578E 01	0.13939E 02	-0.11508E 02
80.	-0.57481E 00	0.10617E 01	0.15420E 02	-0.13012E 02
70.	-0.54888E 00	0.10649E 01	0.17264E 02	-0.14827E 02
65.	-0.53125E 00	0.10658E 01	0.18361E 02	-0.15879E 02
60.	-0.50941E 00	0.10659E 01	0.19601E 02	-0.17047E 02
55.	-0.48217E-00	0.10647E 01	0.21006E 02	-0.18346E 02
50.	-0.44794E-00	0.10612E 01	0.22602E 02	-0.19787E 02
45.	-0.40458E-00	0.10541E 01	0.24411E 02	-0.21375E 02
40.	-0.34930E-00	0.10410E 01	0.26441E 02	-0.23099E 02
35.	-0.27855E-00	0.10177E 01	0.28655E 02	-0.24897E 02
30.	-0.18871E-00	0.97694E 00	0.30889E 02	-0.26602E 02
25.	-0.79057E-01	0.90612E 00	0.32621E 02	-0.27829E 02
20.	0.38013E-01	0.78633E 00	0.32420E 02	-0.27770E 02
15.	0.12043E-00	0.59846E 00	0.27556E 02	-0.24830E 02
10.	0.11601E-00	0.33450E-00	0.16430E 02	-0.16308E 02

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	-0.13252E-00	0.10013E 01	0.85330E 01	0.15173E-00
225.	-0.73389E-01	0.99949E 00	0.93827E 01	0.47373E-01
200.	-0.36277E-01	0.99792E 00	0.10410E 02	-0.38033E-01
175.	-0.27876E-01	0.99686E 00	0.11695E 02	-0.10133E-00
150.	-0.62073E-01	0.99725E 00	0.13323E 02	-0.17269E-00
140.	-0.90612E-01	0.99818E 00	0.14093E 02	-0.23560E-00
130.	-0.12731E-00	0.99971E 00	0.14945E 02	-0.35343E-00
120.	-0.17003E-00	0.10019E 01	0.15901E 02	-0.56464E 00
110.	-0.21523E-00	0.10047E 01	0.16995E 02	-0.91388E 00
100.	-0.25887E-00	0.10081E 01	0.18276E 02	-0.14476E 01
90.	-0.29714E-00	0.10117E 01	0.19812E 02	-0.22181E 01
80.	-0.32663E-00	0.10153E 01	0.21681E 02	-0.33006E 01
70.	-0.34359E-00	0.10183E 01	0.23979E 02	-0.48189E 01
65.	-0.34567E-00	0.10191E 01	0.25328E 02	-0.57962E 01
60.	-0.34195E-00	0.10191E 01	0.26842E 02	-0.69480E 01
55.	-0.33061E-00	0.10175E 01	0.28562E 02	-0.82839E 01
50.	-0.30916E-00	0.10132E 01	0.30552E 02	-0.97928E 01
45.	-0.27421E-00	0.10042E 01	0.32902E 02	-0.11434E 02
40.	-0.22121E-00	0.98709E 00	0.35735E 02	-0.13123E 02
35.	-0.14367E-00	0.95585E 00	0.39218E 02	-0.14694E 02
30.	-0.31991E-01	0.89673E 00	0.43561E 02	-0.15808E 02
25.	0.12770E-00	0.79171E 00	0.48985E 02	-0.15729E 02
20.	0.35180E-00	0.58153E 00	0.55415E 02	-0.12818E 02
15.	0.63165E 00	0.14349E-00	0.60539E 02	-0.35104E 01
10.	0.71552E 00	-0.76276E 00	0.46258E 02	0.17915E 02

MODE 1,2

PERIOD	UM/WO	W'/WO	ZM/WO/K	XM/WO/K
110.	0.15304E-00	0.97[illegible]99E 00	0.19186E 02	-0.75879E 00
100.	0.11417E-00	0.97[illegible]30E 00	0.20945E 02	-0.70453E 00
90.	0.55806E-01	0.97[illegible]71E 00	0.22973E 02	-0.62424E 00
80.	-0.23940E-01	0.98[illegible]97E 00	0.25266E 02	-0.64957E 00
70.	-0.11993E-00	0.98[illegible]95E 00	0.27724E 02	-0.12121E 01
65.	-0.15913E-00	0.98[illegible]28E 00	0.29094E 02	-0.18616E 01
60.	-0.18454E-00	0.99[illegible]21E 00	0.30678E 02	-0.27471E 01
55.	-0.19427E-00	0.98880E 00	0.32564E 02	-0.38261E 01
50.	-0.18785E-00	0.98391E 00	0.34824E 02	-0.50808E 01
45.	-0.16461E-00	0.97391E 00	0.37505E 02	-0.65334E 01
40.	-0.12257E-00	0.95603E 00	0.40619E 02	-0.82356E 01
35.	-0.57077E-01	0.92488E 00	0.44153E 02	-0.10189E 02
30.	0.41677E-01	0.86897E 00	0.48175E 02	-0.12104E 02
25.	0.18920E-00	0.76357E 00	0.52916E 02	-0.13090E 02
20.	0.40153E-00	0.55482E 00	0.58348E 02	-0.11312E 02
15.	0.66411E 00	0.12018E-00	0.61998E 02	-0.31906E 01
10.	0.71399E 00	-0.76578E 00	0.45868E 02	0.17409E 02

LOVE

MODE 0

PERIOD	VM/VO	VM/VO/K
350.	0.99733E 00	0.27979E 01
300.	0.99654E 00	0.30170E 01
250.	0.99528E 00	0.33196E 01
225.	0.99435E 00	0.35242E 01
200.	0.99306E 00	0.37845E 01
175.	0.99123E 00	0.41261E 01
150.	0.98844E 00	0.45905E 01
140.	0.98690E 00	0.48253E 01
130.	0.98501E 00	0.50978E 01
120.	0.98264E 00	0.54169E 01
110.	0.97962E 00	0.57949E 01
100.	0.97568E 00	0.62483E 01
90.	0.97041E 00	0.68000E 01
80.	0.96312E 00	0.74820E 01
70.	0.95266E 00	0.83388E 01
65.	0.94564E 00	0.88504E 01
60.	0.93693E 00	0.94279E 01
55.	0.92598E 00	0.10077E 02
50.	0.91204E 00	0.10796E 02
45.	0.89410E 00	0.11568E 02
40.	0.87091E 00	0.12339E 02
35.	0.84090E 00	0.13009E 02
30.	0.80212E 00	0.13429E 02
25.	0.75212E 00	0.13412E 02
20.	0.68761E 00	0.12745E 02
15.	0.60259E 00	0.11241E 02
10.	0.48044E-00	0.87407E 01

MODE 1

PERIOD	VM/VO	VM/VO/K
200.	0.98988E 00	0.73098E 01
175.	0.98698E 00	0.80827E 01
150.	0.98286E 00	0.88031E 01
140.	0.98070E 00	0.90845E 01
130.	0.97810E 00	0.93727E 01
120.	0.97495E 00	0.96795E 01
110.	0.97104E 00	0.10018E 02
100.	0.96608E 00	0.10403E 02
90.	0.95965E 00	0.10848E 02
80.	0.95106E 00	0.11369E 02
70.	0.93918E 00	0.11991E 02
65.	0.93140E 00	0.12358E 02
60.	0.92187E 00	0.12778E 02
55.	0.90994E 00	0.13273E 02
50.	0.89459E 00	0.13877E 02
45.	0.87421E 00	0.14643E 02
40.	0.84602E 00	0.15650E 02
35.	0.80518E 00	0.17008E 02
30.	0.74294E 00	0.18833E 02
25.	0.64245E 00	0.21207E 02
20.	0.46776E-00	0.24049E 02
15.	0.13450E-00	0.26313E 02
10.	-0.53346E 00	0.20673E 02

MODE 2

PERIOD	VM/VO	VM/VO/K
100.	0.95978E 00	0.14409E 02
90.	0.95142E 00	0.15282E 02
80.	0.94076E 00	0.15941E 02
70.	0.92620E 00	0.16629E 02
65.	0.91661E 00	0.17062E 02
60.	0.90480E 00	0.17579E 02
55.	0.89004E 00	0.18184E 02
50.	0.87136E 00	0.18861E 02
45.	0.84738E 00	0.19586E 02
40.	0.81574E 00	0.20367E 02
35.	0.77200E 00	0.21298E 02
30.	0.70748E 00	0.22547E 02
25.	0.60492E 00	0.24266E 02
20.	0.42801E-00	0.26378E 02
15.	0.94167E-01	0.27683E 02
10.	-0.56121E 00	0.20584E 02

MODE 3

PERIOD	VM/VO	VM/VO/K
70.	0.91830E 00	0.20377E 02
65.	0.90650E 00	0.21323E 02
60.	0.89287E 00	0.21971E 02
55.	0.87652E 00	0.22467E 02
50.	0.85609E 00	0.22976E 02
45.	0.82931E 00	0.23673E 02
40.	0.79277E 00	0.24671E 02
35.	0.74173E 00	0.25902E 02
30.	0.66954E 00	0.27083E 02
25.	0.56138E 00	0.28175E 02
20.	0.38069E-00	0.29325E 02
15.	0.44044E-01	0.29419E 02
10.	-0.57431E 00	0.20524E 02

TABLE 10

OCEAN

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 20 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.66485E 00	0.10117E 01	0.50539E 01	-0.22957E 01
300.	-0.60342E 00	0.10129E 01	0.56273E 01	-0.28697E 01
250.	-0.56050E 00	0.10154E 01	0.63103E 01	-0.39164E 01
225.	-0.54676E 00	0.10172E 01	0.67444E 01	-0.46960E 01
200.	-0.53638E 00	0.10197E 01	0.72935E 01	-0.56944E 01
175.	-0.52729E 00	0.10229E 01	0.80202E 01	-0.69654E 01
150.	-0.51696E 00	0.10268E 01	0.90206E 01	-0.85955E 01
140.	-0.51179E 00	0.10287E 01	0.95302E 01	-0.93789E 01
130.	-0.50565E 00	0.10308E 01	0.10123E 02	-0.10258E 02
120.	-0.49826E-00	0.10330E 01	0.10819E 02	-0.11251E 02
110.	-0.48922E-00	0.10354E 01	0.11643E 02	-0.12387E 02
100.	-0.47807E-00	0.10381E 01	0.12631E 02	-0.13701E 02
90.	-0.46413E-00	0.10410E 01	0.13830E 02	-0.15246E 02
80.	-0.44643E-00	0.10440E 01	0.15310E 02	-0.17096E 02
70.	-0.42345E-00	0.10470E 01	0.17173E 02	-0.19356E 02
65.	-0.40924E-00	0.10483E 01	0.18295E 02	-0.20684E 02
60.	-0.39265E-00	0.10493E 01	0.19580E 02	-0.22175E 02
55.	-0.37301E-00	0.10498E 01	0.21062E 02	-0.23857E 02
50.	-0.34956E-00	0.10495E 01	0.22787E 02	-0.25763E 02
45.	-0.32106E-00	0.10476E 01	0.24814E 02	-0.27929E 02
40.	-0.28592E-00	0.10429E 01	0.27214E 02	-0.30392E 02
35.	-0.24191E-00	0.10331E 01	0.30069E 02	-0.33177E 02
30.	-0.18588E-00	0.10133E 01	0.33434E 02	-0.36249E 02
25.	-0.11356E-00	0.97186E 00	0.37207E 02	-0.39341E 02
20.	-0.20170E-01	0.87386E 00	0.40489E 02	-0.41094E 02
15.	0.85465E-01	0.53186E 00	0.35476E 02	-0.31717E 02
10.	0.98520E-02	0.15695E-01	0.18905E 01	-0.16109E 01

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	-0.10074E-00	0.10010E 01	0.85840E 01	-0.23495E-00
225.	-0.14827E-01	0.99898E 00	0.94488E 01	-0.15057E-00
200.	0.46550E-01	0.99703E 00	0.10474E 02	-0.68227E-01
175.	0.78124E-01	0.99535E 00	0.11750E 02	-0.10600E-01
150.	0.63644E-01	0.99472E 00	0.13360E 02	-0.96656E-01
140.	0.41488E-01	0.99505E 00	0.14120E 02	-0.23363E-00
130.	0.10305E-01	0.99585E 00	0.14962E 02	-0.47510E-00
120.	-0.27745E-01	0.99716E 00	0.15908E 02	-0.85991E 00
110.	-0.69249E-01	0.99895E 00	0.16991E 02	-0.14281E 01
100.	-0.11045E-00	0.10012E 01	0.18259E 02	-0.22216E 01
90.	-0.14818E-00	0.10037E 01	0.19769E 02	-0.32967E 01
80.	-0.18043E-00	0.10065E 01	0.21583E 02	-0.47576E 01
70.	-0.20584E-00	0.10096E 01	0.23769E 02	-0.68027E 01
65.	-0.21507E-00	0.10111E 01	0.25038E 02	-0.81283E 01
60.	-0.22082E-00	0.10125E 01	0.26467E 02	-0.96905E 01
55.	-0.22168E-00	0.10133E 01	0.28119E 02	-0.11492E 02
50.	-0.21624E-00	0.10131E 01	0.30073E 02	-0.13531E 02
45.	-0.20288E-00	0.10110E 01	0.32439E 02	-0.15797E 02
40.	-0.17964E-00	0.10054E 01	0.35353E 02	-0.18275E 02
35.	-0.14366E-00	0.99350E 00	0.39008E 02	-0.20916E 02
30.	-0.90624E-01	0.96945E 00	0.43664E 02	-0.23563E 02
25.	-0.13344E-01	0.91915E 00	0.49676E 02	-0.25689E 02
20.	0.10123E-00	0.79945E 00	0.57372E 02	-0.25278E 02
15.	0.29400E-00	0.33734E-00	0.64738E 02	-0.78649E 01
10.	0.39050E-00	0.10088E 01	0.92480E 02	-0.49013E 02

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.33250E-00	0.97816E 00	0.19315E 02	0.52077E 00
100.	0.29800E-00	0.97710E 00	0.21104E 02	0.46426E-00
90.	0.23609E-00	0.97728E 00	0.23138E 02	0.29131E-00
80.	0.13901E-00	0.97985E 00	0.25324E 02	-0.22444E-00
70.	0.22487E-01	0.98523E 00	0.27552E 02	-0.16044E 01
65.	-0.21071E-01	0.98748E 00	0.28875E 02	-0.26198E 01
60.	-0.50502E-01	0.98869E 00	0.30483E 02	-0.37665E 01
55.	-0.68009E-01	0.98862E 00	0.32445E 02	-0.50364E 01
50.	-0.76756E-01	0.98715E 00	0.34803E 02	-0.65042E 01
45.	-0.79581E-01	0.98411E 00	0.37557E 02	-0.83461E 01
40.	-0.77448E-01	0.97894E 00	0.40662E 02	-0.10832E 02
35.	-0.65912E-01	0.96928E 00	0.44154E 02	-0.14112E 02
30.	-0.35283E-01	0.94862E 00	0.48324E 02	-0.17902E 02
25.	0.24638E-01	0.90196E 00	0.53644E 02	-0.21401E 02
20.	0.12682E-00	0.78547E 00	0.60525E 02	-0.22382E 02
15.	0.30898E-00	0.32441E-00	0.66589E 02	-0.65650E 01
10.	0.43209E-00	0.96520E 00	0.98698E 02	-0.43810E 02

LOVE

MODE 0

PERIOD	VM/VO	VM/VO/K
350.	0.99906E 00	0.17054E 01
300.	0.99880E 00	0.17077E 01
250.	0.99840E 00	0.17013E 01
225.	0.99811E 00	0.16994E 01
200.	0.99771E 00	0.17026E 01
175.	0.99715E 00	0.17158E 01
150.	0.99631E 00	0.17474E 01
140.	0.99585E 00	0.17683E 01
130.	0.99528E 00	0.17958E 01
120.	0.99457E 00	0.18320E 01
110.	0.99367E 00	0.18797E 01
100.	0.99249E 00	0.19428E 01
90.	0.99090E 00	0.20271E 01
80.	0.98870E 00	0.21412E 01
70.	0.98550E 00	0.22987E 01
65.	0.98333E 00	0.24002E 01
60.	0.98061E 00	0.25221E 01
55.	0.97712E 00	0.26700E 01
50.	0.97254E 00	0.28515E 01
45.	0.96638E 00	0.30776E 01
40.	0.95782E 00	0.33641E 01
35.	0.94541E 00	0.37352E 01
30.	0.92647E 00	0.42291E 01
25.	0.89551E 00	0.49099E 01
20.	0.83989E 00	0.58921E 01
15.	0.72531E 00	0.74053E 01
10.	0.44118E-00	0.94832E 01

MODE 1

PERIOD	VM/VO	VM/VO/K
200.	0.99625E 00	0.54609E 01
175.	0.99517E 00	0.60362E 01
150.	0.99365E 00	0.64757E 01
140.	0.99286E 00	0.66040E 01
130.	0.99193E 00	0.67055E 01
120.	0.99080E 00	0.67823E 01
110.	0.98942E 00	0.68359E 01
100.	0.98770E 00	0.68640E 01
90.	0.98551E 00	0.68581E 01
80.	0.98264E 00	0.68049E 01
70.	0.97875E 00	0.66967E 01
65.	0.97622E 00	0.66259E 01
60.	0.97313E 00	0.65511E 01
55.	0.96927E 00	0.64808E 01
50.	0.96431E 00	0.64270E 01
45.	0.95774E 00	0.64052E 01
40.	0.94871E 00	0.64366E 01
35.	0.93574E 00	0.65513E 01
30.	0.91605E 00	0.67960E 01
25.	0.88396E 00	0.72486E 01
20.	0.82638E 00	0.80490E 01
15.	0.70788E 00	0.94486E 01
10.	0.42969E-00	0.10331E 02

MODE 2

PERIOD	VM/VO	VM/VO/K
100.	0.98505E 00	0.10864E 02
90.	0.98188E 00	0.11549E 02
80.	0.97793E 00	0.11852E 02
70.	0.97261E 00	0.12013E 02
65.	0.96913E 00	0.12111E 02
60.	0.96488E 00	0.12226E 02
55.	0.95963E 00	0.12325E 02
50.	0.95315E 00	0.12333E 02
45.	0.94512E 00	0.12163E 02
40.	0.93487E 00	0.11802E 02
35.	0.92103E 00	0.11328E 02
30.	0.90084E 00	0.10857E 02
25.	0.86877E 00	0.10504E 02
20.	0.81217E 00	0.10401E 02
15.	0.69737E 00	0.10703E 02
10.	0.39813E-00	0.12680E 02

MODE 3

PERIOD	VM/VO	VM/VO/K
65.	0.96497E 00	0.16359E 02
60.	0.95978E 00	0.16813E 02
55.	0.95377E 00	0.16884E 02
50.	0.94637E 00	0.16838E 02
45.	0.93656E 00	0.16959E 02
40.	0.92308E 00	0.17322E 02
35.	0.90480E 00	0.17544E 02
30.	0.88096E 00	0.16900E 02
25.	0.84677E 00	0.15658E 02
20.	0.78906E 00	0.14434E 02
15.	0.67288E 00	0.13703E 02
10.	0.37476E-00	0.14437E 02

TABLE 11

SHIELD

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 35 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.62338E 00	0.10224E 01	0.97578E 01	-0.24291E 01
300.	-0.57491E 00	0.10251E 01	0.10811E 02	-0.36974E 01
250.	-0.54217E 00	0.10301E 01	0.12099E 02	-0.53080E 01
225.	-0.53044E 00	0.10338E 01	0.12928E 02	-0.65875E 01
200.	-0.51980E 00	0.10384E 01	0.13970E 02	-0.81866E 01
175.	-0.50824E 00	0.10439E 01	0.15322E 02	-0.10192E 02
150.	-0.49302E-00	0.10504E 01	0.17135E 02	-0.12739E 02
140.	-0.48501E-00	0.10532E 01	0.18039E 02	-0.13955E 02
130.	-0.47537E-00	0.10561E 01	0.19077E 02	-0.15310E 02
120.	-0.46359E-00	0.10589E 01	0.20276E 02	-0.16830E 02
110.	-0.44902E-00	0.10615E 01	0.21672E 02	-0.18545E 02
100.	-0.43079E-00	0.10636E 01	0.23309E 02	-0.20495E 02
90.	-0.40768E-00	0.10645E 01	0.25245E 02	-0.22729E 02
80.	-0.37801E-00	0.10634E 01	0.27550E 02	-0.25307E 02
70.	-0.33932E-00	0.10583E 01	0.30302E 02	-0.28293E 02
65.	-0.31553E-00	0.10531E 01	0.31870E 02	-0.29956E 02
60.	-0.28804E-00	0.10452E 01	0.33571E 02	-0.31733E 02
55.	-0.25615E-00	0.10332E 01	0.35399E 02	-0.33613E 02
50.	-0.21907E-00	0.10155E 01	0.37325E 02	-0.35560E 02
45.	-0.17596E-00	0.98915E 00	0.39278E 02	-0.37493E 02
40.	-0.12617E-00	0.94962E 00	0.41099E 02	-0.39248E 02
35.	-0.69679E-01	0.88980E 00	0.42457E 02	-0.40480E 02
30.	-0.84380E-02	0.79860E 00	0.42673E 02	-0.40506E 02
25.	0.50435E-01	0.66077E 00	0.40409E 02	-0.38042E 02
20.	0.88644E-01	0.46554E-00	0.33433E 02	-0.31155E 02
15.	0.79394E-01	0.23935E-00	0.20380E 02	-0.18976E 02
10.	0.30125E-01	0.63271E-01	0.61885E 01	-0.58800E 01

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	-0.73616E-01	0.99829E 00	0.16719E 02	-0.60083E-01
225.	-0.76987E-02	0.99431E 00	0.18360E 02	-0.23677E-00
200.	0.38207E-01	0.99027E 00	0.20342E 02	-0.39965E-00
175.	0.58297E-01	0.98649E 00	0.22822E 02	-0.56374E 00
150.	0.40521E-01	0.98407E 00	0.25965E 02	-0.82858E 00
140.	0.20551E-01	0.98389E 00	0.27449E 02	-0.10360E 01
130.	-0.60682E-02	0.98429E 00	0.29088E 02	-0.13720E 01
120.	-0.36965E-01	0.98523E 00	0.30913E 02	-0.19078E 01
110.	-0.68425E-01	0.98642E 00	0.32979E 02	-0.27219E 01
100.	-0.96224E-01	0.98732E 00	0.35365E 02	-0.38905E 01
90.	-0.11639E-00	0.98709E 00	0.38165E 02	-0.54923E 01
80.	-0.12532E-00	0.98440E 00	0.41475E 02	-0.76319E 01
70.	-0.11938E-00	0.97695E 00	0.45373E 02	-0.10467E 02
65.	-0.10937E-00	0.97016E 00	0.47557E 02	-0.12203E 02
60.	-0.93524E-01	0.96009E 00	0.49905E 02	-0.14168E 02
55.	-0.70525E-01	0.94511E 00	0.52437E 02	-0.16335E 02
50.	-0.38653E-01	0.92261E 00	0.55184E 02	-0.18623E 02
45.	0.42488E-02	0.88840E 00	0.58182E 02	-0.20867E 02
40.	0.60802E-01	0.83556E 00	0.61443E 02	-0.22770E 02
35.	0.13414E-00	0.75228E 00	0.64889E 02	-0.23790E 02
30.	0.22761E-00	0.61736E 00	0.68175E 02	-0.22876E 02
25.	0.34279E-00	0.39139E-00	0.70206E 02	-0.17887E 02
20.	0.46944E-00	0.16695E-02	0.67515E 02	-0.43718E 01
15.	0.53208E 00	-0.64483E 00	0.48268E 02	0.25308E 02
10.	0.12129E-00	-0.11219E 01	-0.24035E 02	0.58795E 02

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.27839E-00	0.94606E 00	0.36955E 02	-0.20424E 01
100.	0.25276E-00	0.94067E 00	0.40265E 02	-0.21654E 01
90.	0.21169E-00	0.93554E 00	0.44072E 02	-0.23234E 01
80.	0.15504E-00	0.93093E 00	0.48337E 02	-0.25737E 01
70.	0.89404E-01	0.92662E 00	0.52766E 02	-0.41737E 01
65.	0.66934E-01	0.92193E 00	0.55104E 02	-0.54902E 01
60.	0.58257E-01	0.91298F 00	0.57684E 02	-0.71585E 01
55.	0.64751E-01	0.89759F 00	0.60614E 02	-0.90731E 01
50.	0.86251E-01	0.87314E 00	0.63930E 02	-0.11154E 02
45.	0.12220E-00	0.83583E 00	0.67551E 02	-0.13348E 02
40.	0.17199E-00	0.77970E 00	0.71210E 02	-0.15569E 02
35.	0.23530E-00	0.69445E 00	0.74395E 02	-0.17494E 02
30.	0.31341E-00	0.56021E 00	0.76411E 02	-0.18089E 02
25.	0.40750E-00	0.33827E-00	0.76107E 02	-0.14960E 02
20.	0.50535E 00	-0.41273E-01	0.70001E 02	-0.34527E 01
15.	0.52468E 00	-0.65834E 00	0.46037E 02	0.23843E 02
10.	0.93520E-01	-0.10904E 01	-0.26896E 02	0.56550E 02

LOVE

MODE 0

PERIOD	YM/VO	YM/VO/K
350.	0.99349E 00	0.50615E 01
300.	0.99159E 00	0.54047E 01
250.	0.98861E 00	0.58750E 01
225.	0.98639E 00	0.61936E 01
200.	0.98335E 00	0.66003E 01
175.	0.97901E 00	0.71354E 01
150.	0.97246E 00	0.78642E 01
140.	0.96886E 00	0.82328E 01
130.	0.96443E 00	0.86599E 01
120.	0.95889E 00	0.91592E 01
110.	0.95185E 00	0.97487E 01
100.	0.94268E 00	0.10452E 02
90.	0.93046E 00	0.11302E 02
80.	0.91363E 00	0.12339E 02
70.	0.88963E 00	0.13617E 02
65.	0.87362E 00	0.14363E 02
60.	0.85388E 00	0.15186E 02
55.	0.82925E 00	0.16082E 02
50.	0.79820E 00	0.17026E 02
45.	0.75862E 00	0.17954E 02
40.	0.70891E 00	0.18729E 02
35.	0.64623E 00	0.19125E 02
30.	0.56872E 00	0.18844E 02
25.	0.47512E-00	0.17553E 02
20.	0.36628E-00	0.14964E 02
15.	0.24621E-00	0.10972E 02
10.	0.12262E-00	0.58549E 01

MODE 1

PERIOD	YM/VO	YM/VO/K
200.	0.97496E 00	0.13642E 02
175.	0.96786E 00	0.15025E 02
150.	0.95785E 00	0.16243E 02
140.	0.95261E 00	0.16692E 02
130.	0.94637E 00	0.17135E 02
120.	0.93882E 00	0.17591E 02
110.	0.92949E 00	0.18078E 02
100.	0.91774E 00	0.18615E 02
90.	0.90260E 00	0.19213E 02
80.	0.88257E 00	0.19879E 02
70.	0.85516E 00	0.20628E 02
65.	0.83738E 00	0.21047E 02
60.	0.81576E 00	0.21513E 02
55.	0.78891E 00	0.22050E 02
50.	0.75472E 00	0.22692E 02
45.	0.70983E 00	0.23495E 02
40.	0.64860E 00	0.24531E 02
35.	0.56160E 00	0.25855E 02
30.	0.43301E-00	0.27390E 02
25.	0.23613E-00	0.28678E 02
20.	-0.72956E-01	0.28163E 02
15.	-0.53450E 00	0.20625E 02
10.	-0.80072E 00	-0.93388E 01

MODE 2

PERIOD	YM/VO	YM/VO/K
100.	0.90147E 00	0.26382E 02
90.	0.88147E 00	0.27751E 02
80.	0.85627E 00	0.28604E 02
70.	0.82229E 00	0.29364E 02
65.	0.80013E 00	0.29829E 02
60.	0.77306E 00	0.30378E 02
55.	0.73959E 00	0.30988E 02
50.	0.69778E 00	0.31594E 02
45.	0.64500E 00	0.32103E 02
40.	0.57690E 00	0.32455E 02
35.	0.48534E-00	0.32680E 02
30.	0.35522E-00	0.32783E 02
25.	0.16028E-00	0.32390E 02
20.	-0.14068E-00	0.29893E 02
15.	-0.57566E 00	0.19910E 02
10.	-0.77066E 00	-0.11785E 02

MODE 3

PERIOD	YM/VO	YM/VO/K
70.	0.80245E 00	0.36330E 02
65.	0.77494E 00	0.37662E 02
60.	0.74358E 00	0.38341E 02
55.	0.70653E 00	0.38621E 02
50.	0.66092E 00	0.38764E 02
45.	0.60218E 00	0.39010E 02
40.	0.52377E 00	0.39419E 02
35.	0.41775E-00	0.39653E 02
30.	0.27494E-00	0.38948E 02
25.	0.76162E-01	0.36701E 02
20.	-0.21647E-00	0.31677E 02
15.	-0.62062E 00	0.18613E 02
10.	-0.75502E 00	-0.12989E 02

TABLE 12

..OCEAN..

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 50 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.56918E 00	0.10294E 01	0.14368E 02	-0.88121E 01
300.	-0.48866E-00	0.10308E 01	0.15837E 02	-0.10535E 02
250.	-0.41817E-00	0.10341E 01	0.17398E 02	-0.13596E 02
225.	-0.38663E-00	0.10367E 01	0.18290E 02	-0.15813E 02
200.	-0.35530E-00	0.10399E 01	0.19342E 02	-0.18569E 02
175.	-0.32159E-00	0.10434E 01	0.20645E 02	-0.21936E 02
150.	-0.28219E-00	0.10467E 01	0.22323E 02	-0.26013E 02
140.	-0.26390E-00	0.10477E 01	0.23134E 02	-0.27872E 02
130.	-0.24367E-00	0.10483E 01	0.24045E 02	-0.29878E 02
120.	-0.22110E-00	0.10482E 01	0.25070E 02	-0.32044E 02
110.	-0.19576E-00	0.10473E 01	0.26224E 02	-0.34385E 02
100.	-0.16713E-00	0.10450E 01	0.27521E 02	-0.36918E 02
90.	-0.13464E-00	0.10404E 01	0.28969E 02	-0.39654E 02
80.	-0.97675E-01	0.10325E 01	0.30567E 02	-0.42591E 02
70.	-0.55630E-01	0.10188E 01	0.32283E 02	-0.45681E 02
65.	-0.32545E-01	0.10088E 01	0.33162E 02	-0.47243E 02
60.	-0.80480E-02	0.99550E 00	0.34030E 02	-0.48767E 02
55.	0.17816E-01	0.97794E 00	0.34855E 02	-0.50187E 02
50.	0.44885E-01	0.95442E 00	0.35587E 02	-0.51395E 02
45.	0.72775E-01	0.92247E 00	0.36143E 02	-0.52214E 02
40.	0.10066E-00	0.87831E 00	0.36380E 02	-0.52356E 02
35.	0.12685E-00	0.81613E 00	0.36047E 02	-0.51345E 02
30.	0.14783E-00	0.72676E 00	0.34668E 02	-0.48391E 02
25.	0.15626E-00	0.59596E 00	0.31311E 02	-0.42182E 02
20.	0.13672E-00	0.40203E-00	0.24078E 02	-0.30543E 02
15.	0.52378E-01	0.10695E-00	0.83482E 01	-0.92192E 01
10.	0.40197E-00	0.25435E-00	0.34583E 02	-0.53372E 02

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.15352E-01	0.99385E 00	0.24682E 02	-0.12095E 01
225.	0.11522E-00	0.98562E 00	0.27359E 02	-0.64509E 00
200.	0.19483E-00	0.97669E 00	0.30290E 02	-0.74013E-01
175.	0.25041E-00	0.96704E 00	0.33923E 02	0.42206E-00
150.	0.26874E-00	0.95774E 00	0.38459E 02	0.43937E-00
140.	0.26321E-00	0.95450E 00	0.40563E 02	0.12281E-00
130.	0.25117E-00	0.95157E 00	0.42852E 02	-0.50021E 00
120.	0.23509E-00	0.94870E 00	0.45352E 02	-0.15145E 01
110.	0.21868E-00	0.94534E 00	0.48111E 02	-0.29849E 01
100.	0.20600E-00	0.94055E 00	0.51189E 02	-0.49483E 01
90.	0.20062E-00	0.93297E 00	0.54639E 02	-0.74291E 01
80.	0.20501E-00	0.92072E 00	0.58440E 02	-0.10482E 02
70.	0.22039E-00	0.90099E 00	0.62409E 02	-0.14224E 02
65.	0.23255E-00	0.88685E 00	0.64368E 02	-0.16360E 02
60.	0.24821E-00	0.86839E 00	0.66290E 02	-0.18600E 02
55.	0.26807E-00	0.84371E 00	0.68220E 02	-0.20784E 02
50.	0.29265E-00	0.81002E 00	0.70216E 02	-0.22688E 02
45.	0.32242E-00	0.76309E 00	0.72345E 02	-0.23976E 02
40.	0.35762E-00	0.69628E 00	0.74654E 02	-0.24143E 02
35.	0.39834E-00	0.59846E 00	0.77175E 02	-0.22341E 02
30.	0.44441E-00	0.44977E-00	0.79913E 02	-0.17032E 02
25.	0.49563E-00	0.21084E-00	0.82927E 02	-0.51101E 01
20.	0.55306E 00	-0.21025E-00	0.86595E 02	0.20669E 02
15.	0.62440E 00	-0.11646E 01	0.92439E 02	0.87158E 02
10.	0.10309E 01	-0.23609E 01	0.14804E 03	0.17695E 03

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.59125E 00	0.88923E 00	0.54914E 02	0.36328E 01
100.	0.58219E 00	0.87635E 00	0.59742E 02	0.34473E 01
90.	0.55265E 00	0.86335E 00	0.65139E 02	0.28576E 01
80.	0.49847E-00	0.85112E 00	0.70713E 02	0.14115E 01
70.	0.43686E-00	0.83692E 00	0.75702E 02	-0.16770E 01
65.	0.42285E-00	0.82362E 00	0.78308E 02	-0.35709E 01
60.	0.42358E-00	0.80309E 00	0.81307E 02	-0.53653E 01
55.	0.43681E-00	0.77337E 00	0.84780E 02	-0.69294E 01
50.	0.45892E-00	0.73227E 00	0.88608E 02	-0.82485E 01
45.	0.48534E-00	0.67694E 00	0.92387E 02	-0.93725E 01
40.	0.51101E 00	0.60316E 00	0.95348E 02	-0.10251E 02
35.	0.53347E 00	0.50209E 00	0.96774E 02	-0.10187E 02
30.	0.55472E 00	0.35419E-00	0.96677E 02	-0.72200E 01
25.	0.57662E 00	0.12060E-00	0.95514E 02	0.22664E 01
20.	0.59910E 00	-0.28627E-00	0.93826E 02	0.25349E 02
15.	0.60297E 00	-0.11708E 01	0.89580E 02	0.85112E 02
10.	0.10436E 01	-0.25960E 01	0.15015E 03	0.18973E 03

LOVE

MODE 0

PERIOD	VM/VO	YM/VO/K
350.	0.99488E 00	0.42259E 01
300.	0.99395E 00	0.40104E 01
250.	0.99276E 00	0.36754E 01
225.	0.99201E 00	0.34594E 01
200.	0.99110E 00	0.32069E 01
175.	0.98994E 00	0.29122E 01
150.	0.98839E 00	0.25650E 01
140.	0.98761E 00	0.24080E 01
130.	0.98669E 00	0.22383E 01
120.	0.98560E 00	0.20542E 01
110.	0.98427E 00	0.18529E 01
100.	0.98260E 00	0.16314E 01
90.	0.98045E 00	0.13850E 01
80.	0.97757E 00	0.11078E 01
70.	0.97353E 00	0.79050E 00
65.	0.97084E 00	0.61274E 00
60.	0.96750E 00	0.41909E-00
55.	0.96328E 00	0.20627E-00
50.	0.95779E 00	-0.30092E-01
45.	0.95046E 00	-0.29592E-00
40.	0.94033E 00	-0.59928E 00
35.	0.92568E 00	-0.95089E 00
30.	0.90330E 00	-0.13633E 01
25.	0.86635E 00	-0.18418E 01
20.	0.79785E 00	-0.23270E 01
15.	0.64191E 00	-0.22765E 01
10.	0.14215E-00	0.22021E 01

MODE 1

PERIOD	VM/VO	YM/VO/K
200.	0.97483E 00	0.15336E 02
175.	0.96789E 00	0.16837E 02
150.	0.95883E 00	0.17783E 02
140.	0.95443E 00	0.17962E 02
130.	0.94946E 00	0.18019E 02
120.	0.94378E 00	0.17952E 02
110.	0.93724E 00	0.17754E 02
100.	0.92967E 00	0.17401E 02
90.	0.92088E 00	0.16845E 02
80.	0.91075E 00	0.16011E 02
70.	0.89910E 00	0.14823E 02
65.	0.89254E 00	0.14086E 02
60.	0.88531E 00	0.13256E 02
55.	0.87712E 00	0.12340E 02
50.	0.86753E 00	0.11347E 02
45.	0.85581E 00	0.10287E 02
40.	0.84074E 00	0.91666E 01
35.	0.82017E 00	0.79959E 01
30.	0.78998E 00	0.67890E 01
25.	0.74147E 00	0.55842E 01
20.	0.65317E 00	0.45194E 01
15.	0.45962E-00	0.41826E 01
10.	0.25888E-01	0.50616E 01

MODE 2

PERIOD	VM/VO	YM/VO/K
100.	0.90073E 00	0.29849E 02
90.	0.88139E 00	0.31351E 02
80.	0.85972E 00	0.31512E 02
70.	0.83306E 00	0.31012E 02
65.	0.81651E 00	0.30703E 02
60.	0.79706E 00	0.30345E 02
55.	0.77448E 00	0.29816E 02
50.	0.74927E 00	0.28874E 02
45.	0.72271E 00	0.27244E 02
40.	0.69560E 00	0.24852E 02
35.	0.66668E 00	0.21868E 02
30.	0.63234E 00	0.18507E 02
25.	0.58536E 00	0.14911E 02
20.	0.50914E 00	0.11197E 02
15.	0.35636E-00	0.76822E 01
10.	-0.25398E-00	0.11138E 02

MODE 3

PERIOD	VM/VO	YM/VO/K
65.	0.77275E 00	0.43118E 02
60.	0.74384E 00	0.43578E 02
55.	0.71383E 00	0.42779E 02
50.	0.67968E 00	0.41473E 02
45.	0.63595E 00	0.40388E 02
40.	0.57759E 00	0.39602E 02
35.	0.50692E 00	0.37984E 02
30.	0.43959E-00	0.33745E 02
25.	0.37514E-00	0.27613E 02
20.	0.29235E-00	0.20931E 02
15.	0.13425E-00	0.14728E 02
10.	-0.42562E-00	0.14064E 02

TABLE 13

SHIELD

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 50 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.57344E 00	0.10295E 01	0.14487E 02	-0.60213E 01
300.	-0.51491E 00	0.10324E 01	0.15982E 02	-0.78211E 01
250.	-0.46795E-00	0.10378E 01	0.17741E 02	-0.10847E 02
225.	-0.44715E-00	0.10417E 01	0.18840E 02	-0.12961E 02
200.	-0.42587E-00	0.10465E 01	0.20190E 02	-0.15569E 02
175.	-0.40178E-00	0.10518E 01	0.21905E 02	-0.18778E 02
150.	-0.37169E-00	0.10574E 01	0.24145E 02	-0.22745E 02
140.	-0.35696E-00	0.10595E 01	0.25239E 02	-0.24591E 02
130.	-0.34010E-00	0.10612E 01	0.26477E 02	-0.26611E 02
120.	-0.32057E-00	0.10624E 01	0.27883E 02	-0.28824E 02
110.	-0.29769E-00	0.10627E 01	0.29485E 02	-0.31251E 02
100.	-0.27063E-00	0.10614E 01	0.31317E 02	-0.33911E 02
90.	-0.23829E-00	0.10576E 01	0.33411E 02	-0.36817E 02
80.	-0.19929E-00	0.10494E 01	0.35790E 02	-0.39958E 02
70.	-0.15193E-00	0.10336E 01	0.38441E 02	-0.43266E 02
65.	-0.12451E-00	0.10212E 01	0.39840E 02	-0.44924E 02
60.	-0.94320E-01	0.10043E 01	0.41247E 02	-0.46522E 02
55.	-0.61231E-01	0.98117E 00	0.42600E 02	-0.47970E 02
50.	-0.25347E-01	0.94943E 00	0.43787E 02	-0.49128E 02
45.	0.12817E-01	0.90549E 00	0.44617E 02	-0.49759E 02
40.	0.51790E-01	0.84416E 00	0.44752E 02	-0.49485E 02
35.	0.88400E-01	0.75804E 00	0.43621E 02	-0.47684E 02
30.	0.11634E-00	0.63740E 00	0.40283E 02	-0.43384E 02
25.	0.12458E-00	0.4[illegible]147E-00	0.33402E 02	-0.35290E 02
20.	0.99676E-01	0.2[illegible]10E-00	0.22023E 02	-0.22748E 02
15.	0.46206E-01	0.9[illegible]23E-01	0.88382E 01	-0.89721E 01
10.	0.67457E-02	0.11246E-01	0.11638E 01	-0.11823E 01

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	-0.15276E-01	0.99374E 00	0.24931E 02	-0.62011E 00
225.	0.57306E-01	0.98715E 00	0.27347E 02	-0.61355E 00
200.	0.11179E-00	0.98009E 00	0.30260E 02	-0.61898E 00
175.	0.14319E-00	0.97276E 00	0.33894E 02	-0.70900E 00
150.	0.14105E-00	0.96621E 00	0.38476E 02	-0.11502E 01
140.	0.12911E-00	0.96417E 00	0.40623E 02	-0.15684E 01
130.	0.11184E-00	0.96250E 00	0.42973E 02	-0.22357E 01
120.	0.91731E-01	0.96096E 00	0.45560E 02	-0.32454E 01
110.	0.72579E-01	0.95896E 00	0.48438E 02	-0.46817E 01
100.	0.58605E-01	0.95545E 00	0.51686E 02	-0.66034E 01
90.	0.53721E-01	0.94882E 00	0.55387E 02	-0.90447E 01
80.	0.61308E-01	0.93659E 00	0.59593E 02	-0.12029E 02
70.	0.84340E-01	0.91464E 00	0.64256E 02	-0.15559E 02
65.	0.10256E-00	0.89786E 00	0.66698E 02	-0.17497E 02
60.	0.12585E-00	0.87524E 00	0.69162E 02	-0.19474E 02
55.	0.15478E-00	0.84436E 00	0.71608E 02	-0.21345E 02
50.	0.19004E-00	0.80147E 00	0.74000E 02	-0.22849E 02
45.	0.23216E-00	0.74075E 00	0.76278E 02	-0.23550E 02
40.	0.28124E-00	0.65300E 00	0.78307E 02	-0.22746E 02
35.	0.33615E-00	0.52330E 00	0.79762E 02	-0.19278E 02
30.	0.39283E-00	0.32683E-00	0.79894E 02	-0.11158E 02
25.	0.43975E-00	0.22479E-01	0.76966E 02	0.50707E 01
20.	0.44533E-00	-0.44778E-00	0.66797E 02	0.34812E 02
15.	0.31968E-00	-0.10653E 01	0.38553E 02	0.79110E 02
10.	-0.15331E-00	-0.78381E 00	-0.31244E 02	0.59599E 02

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.39936E-00	0.9[illegible]71E 00	0.54159E 02	-0.11377E 01
100.	0.38531E-00	0.89314E 00	0.58826E 02	-0.14262E 01
90.	0.35899E-00	0.88036E 00	0.64135E 02	-0.19105E 01
80.	0.32138E-00	0.86586E 00	0.69951E 02	-0.29156E 01
70.	0.27958E-00	0.84776E 00	0.75652E 02	-0.52246E 01
65.	0.26932E-00	0.83927E 00	0.78425E 02	-0.69665E 01
60.	0.27180E-00	0.81140E 00	0.81301E 02	-0.88679E 01
55.	0.28754E-00	0.77895E 00	0.84361E 02	-0.10671E 02
50.	0.31530E-00	0.73203E 00	0.87544E 02	-0.12125E 02
45.	0.35263E-00	0.66334E 00	0.90557E 02	-0.12953E 02
40.	0.39561E-00	0.57117E 00	0.92764E 02	-0.12719E 02
35.	0.43836E-00	0.43741E-00	0.93118E 02	-0.10536E 02
30.	0.47326E-00	0.24288E-00	0.90323E 02	-0.44932E 01
25.	0.48739E-00	-0.49331E-01	0.82562E 02	0.89231E 01
20.	0.44700E-00	-0.48728E-00	0.65596E 02	0.34682E 02
15.	0.26046E-00	-0.10231E 01	0.28657E 02	0.72057E 02
10.	-0.19585E-00	-0.69273E 00	-0.37663E 02	0.51527E 02

LOVE

MODE 0

PERIOD	VM/VO	VM/VO/K
350.	0.98985E 00	0.60826E 01
300.	0.98700E 00	0.62991E 01
250.	0.98256E 00	0.65853E 01
225.	0.97929E 00	0.67844E 01
200.	0.97483E 00	0.70476E 01
175.	0.96850E 00	0.74078E 01
150.	0.95897E 00	0.79173E 01
140.	0.95375E 00	0.81813E 01
130.	0.94734E 00	0.84912E 01
120.	0.93935E 00	0.88579E 01
110.	0.92920E 00	0.92956E 01
100.	0.91604E 00	0.98230E 01
90.	0.89852E 00	0.10464E 02
80.	0.87451E 00	0.11251E 02
70.	0.84042E 00	0.12216E 02
65.	0.81780E 00	0.12773E 02
60.	0.79003E 00	0.13376E 02
55.	0.75560E 00	0.14009E 02
50.	0.71260E 00	0.14626E 02
45.	0.65879E 00	0.15130E 02
40.	0.59204E 00	0.15334E 02
35.	0.51090E 00	0.14958E 02
30.	0.41538E-00	0.13701E 02
25.	0.30824E-00	0.11373E 02
20.	0.19721E-00	0.80553E 01
15.	0.96582E-01	0.43041E 01
10.	0.25693E-01	0.12267E 01

MODE 1

PERIOD	VM/VO	VM/VO/K
200.	0.95982E 00	0.18150E 02
175.	0.94856E 00	0.19838E 02
150.	0.93288E 00	0.21110E 02
140.	0.92478E 00	0.21496E 02
130.	0.91519E 00	0.21825E 02
120.	0.90365E 00	0.22114E 02
110.	0.88952E 00	0.22379E 02
100.	0.87187E 00	0.22625E 02
90.	0.84935E 00	0.22848E 02
80.	0.81989E 00	0.23022E 02
70.	0.78014E 00	0.23120E 02
65.	0.75465E 00	0.23143E 02
60.	0.72389E 00	0.23163E 02
55.	0.68599E 00	0.23208E 02
50.	0.63809E 00	0.23324E 02
45.	0.57559E 00	0.23595E 02
40.	0.49082E-00	0.24146E 02
35.	0.37113E-00	0.25125E 02
30.	0.19627E-00	0.26591E 02
25.	-0.65246E-01	0.28362E 02
20.	-0.45480E-00	0.29553E 02
15.	-0.94816E 00	0.26359E 02
10.	-0.67645E 00	-0.19527E-00

MODE 2

PERIOD	VM/VO	VM/VO/K
100.	0.84331E 00	0.34473E 02
90.	0.81243E 00	0.35808E 02
80.	0.77422E 00	0.36186E 02
70.	0.72351E 00	0.36194E 02
65.	0.69080E 00	0.36215E 02
60.	0.65118E 00	0.36267E 02
55.	0.60266E 00	0.36304E 02
50.	0.54286E 00	0.36221E 02
45.	0.46860E-00	0.35880E 02
40.	0.37465E-00	0.35221E 02
35.	0.25091E-00	0.34352E 02
30.	0.79108E-01	0.33439E 02
25.	-0.16973E-00	0.32384E 02
20.	-0.52850E 00	0.30167E 02
15.	-0.94664E 00	0.22805E 02
10.	-0.54341E 00	-0.57103E 01

MODE 3

PERIOD	VM/VO	VM/VO/K
70.	0.68974E 00	0.46331E 02
65.	0.64826E 00	0.47495E 02
60.	0.60184E 00	0.47596E 02
55.	0.54794E 00	0.47005E 02
50.	0.48267E-00	0.46080E 02
45.	0.39995E-00	0.45131E 02
40.	0.29159E-00	0.44196E 02
35.	0.14912E-00	0.42806E 02
30.	-0.34853E-01	0.40138E 02
25.	-0.27663E-00	0.35920E 02
20.	-0.59985E 00	0.29623E 02
15.	-0.92790E 00	0.17428E 02
10.	-0.47961E-00	-0.82503E 01

TABLE 14

OCEAN

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 70 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.50962E 00	0.10366E 01	0.20270E 02	-0.12650E 02
300.	-0.41833E-00	0.10364E 01	0.22191E 02	-0.14895E 02
250.	-0.33339E-00	0.10376E 01	0.24056E 02	-0.18791E 02
225.	-0.29324E-00	0.10387E 01	0.25020E 02	-0.21545E 02
200.	-0.25257E-00	0.10398E 01	0.26082E 02	-0.24886E 02
175.	-0.20900E-00	0.10400E 01	0.27313E 02	-0.28835E 02
150.	-0.15968E-00	0.10380E 01	0.28790E 02	-0.33399E 02
140.	-0.13757E-00	0.10360E 01	0.29467E 02	-0.35390E 02
130.	-0.11374E-00	0.10329E 01	0.30199E 02	-0.37466E 02
120.	-0.87932E-01	0.10282E 01	0.30985E 02	-0.39617E 02
110.	-0.59921E-01	0.10214E 01	0.31818E 02	-0.41824E 02
100.	-0.29536E-01	0.10116E 01	0.32680E 02	-0.44053E 02
90.	0.32664E-02	0.99735E 00	0.33530E 02	-0.46250E 02
80.	0.38205E-01	0.97677E 00	0.34290E 02	-0.48312E 02
70.	0.74497E-01	0.94658E 00	0.34814E 02	-0.50052E 02
65.	0.92632E-01	0.92631E 00	0.34914E 02	-0.50698E 02
60.	0.11029E-00	0.90134E 00	0.34845E 02	-0.51102E 02
55.	0.12692E-00	0.87030E 00	0.34544E 02	-0.51159E 02
50.	0.14173E-00	0.83133E 00	0.33923E 02	-0.50716E 02
45.	0.15363E-00	0.78183E 00	0.32864E 02	-0.49551E 02
40.	0.16098E-00	0.71816E 00	0.31202E 02	-0.47340E 02
35.	0.16144E-00	0.63531E 00	0.28701E 02	-0.43620E 02
30.	0.15161E-00	0.52681E 00	0.25016E 02	-0.37754E 02
25.	0.12678E-00	0.38602E-00	0.19668E 02	-0.28987E 02
20.	0.81788E-01	0.21226E-00	0.12117E 02	-0.16871E 02
15.	0.16271E-01	0.31252E-01	0.23628E 01	-0.27947E 01
10.	-0.	-0.	-0.	-0.

LOVE

MODE 0

PERIOD	VM/VO	YM/VO/K
350.	0.98999E 00	0.59579E 01
300.	0.98839E 00	0.56117E 01
250.	0.98648E 00	0.50792E 01
225.	0.98537E 00	0.47349E 01
200.	0.98411E 00	0.43303E 01
175.	0.98266E 00	0.38538E 01
150.	0.98094E 00	0.32855E 01
140.	0.98015E 00	0.30254E 01
130.	0.97929E 00	0.27422E 01
120.	0.97834E 00	0.24319E 01
110.	0.97727E 00	0.20891E 01
100.	0.97605E 00	0.17068E 01
90.	0.97462E 00	0.12750E 01
80.	0.97290E 00	0.77991E 00
70.	0.97071E 00	0.20019E-00
65.	0.96936E 00	-0.13129E-00
60.	0.96777E 00	-0.49819E-00
55.	0.96583E 00	-0.90875E 00
50.	0.96341E 00	-0.13742E 01
45.	0.96028E 00	-0.19102E 01
40.	0.95606E 00	-0.25394E 01
35.	0.95003E 00	-0.32947E 01
30.	0.94069E 00	-0.42234E 01
25.	0.92438E 00	-0.53864E 01
20.	0.88923E 00	-0.67954E 01
15.	0.77498E 00	-0.77438E 01
10.	0.89169E-01	0.52140E 00

MODE 1

PERIOD	VM/VO	YM/VO/K
200.	0.94886E 00	0.21815E 02
175.	0.93493E 00	0.23880E 02
150.	0.91706E 00	0.25105E 02
140.	0.90851E 00	0.25296E 02
130.	0.89895E 00	0.25302E 02
120.	0.88819E 00	0.25120E 02
110.	0.87601E 00	0.24739E 02
100.	0.86219E 00	0.24125E 02
90.	0.84664E 00	0.23206E 02
80.	0.82951E 00	0.21876E 02
70.	0.81116E 00	0.20031E 02
65.	0.80159E 00	0.18899E 02
60.	0.79170E 00	0.17629E 02
55.	0.78131E 00	0.16229E 02
50.	0.77011E 00	0.14708E 02
45.	0.75752E 00	0.13073E 02
40.	0.74259E 00	0.11328E 02
35.	0.72355E 00	0.94718E 01
30.	0.69688E 00	0.75066E 01
25.	0.65455E 00	0.54562E 01
20.	0.57406E 00	0.34794E 01
15.	0.37139E-00	0.25019E 01
10.	-0.19185E-00	0.61151E 01

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.91036E-01	0.98138E 00	0.35507E 02	-0.18217E 01
225.	0.19997E-00	0.96725E 00	0.38994E 02	-0.93236E 00
200.	0.29134E-00	0.95111E 00	0.43108E 02	0.14082E-01
175.	0.36224E-00	0.93235E 00	0.48183E 02	0.92857E 00
150.	0.40088E-00	0.91132E 00	0.54457E 02	0.13225E 01
140.	0.40524E-00	0.90235E 00	0.57327E 02	0.11117E 01
130.	0.40417E-00	0.89278E 00	0.60405E 02	0.55592E 00
120.	0.40006E-00	0.88197E 00	0.63700E 02	-0.42629E-00
110.	0.39640E-00	0.86872E 00	0.67237E 02	-0.18751E 01
100.	0.39691E-00	0.85115E 00	0.71045E 02	-0.37694E 01
90.	0.40467E-00	0.82654E 00	0.75111E 02	-0.60261E 01
80.	0.42127E-00	0.79105E 00	0.79283E 02	-0.85181E 01
70.	0.44610E-00	0.73926E 00	0.83114E 02	-0.11056E 02
65.	0.46087E-00	0.70467E 00	0.84696E 02	-0.12204E 02
60.	0.47689E-00	0.66195E 00	0.85983E 02	-0.13091E 02
55.	0.49418E-00	0.60820E 00	0.86999E 02	-0.13453E 02
50.	0.51247E 00	0.53923E 00	0.87782E 02	-0.12937E 02
45.	0.53132E 00	0.44878E-00	0.88380E 02	-0.11034E 02
40.	0.54981E 00	0.32724E-00	0.88812E 02	-0.69988E 01
35.	0.56685E 00	0.15890E-00	0.89103E 02	0.37695E-00
30.	0.58153E 00	-0.84003E-01	0.89365E 02	0.13224E 02
25.	0.59579E 00	-0.45692E-00	0.90201E 02	0.35795E 02
20.	0.62443E 00	-0.10948E 01	0.94187E 02	0.78324E 02
15.	0.74854E 00	-0.25206E 01	0.11380E 03	0.17966E 03
10.	0.16379E 01	-0.61902E 01	0.24398E 03	0.45028E 03

MODE 2

PERIOD	VM/VO	YM/VO/K
100.	0.80096E 00	0.41332E 02
90.	0.76348E 00	0.43073E 02
80.	0.72260E 00	0.42882E 02
70.	0.67366E 00	0.41695E 02
65.	0.64382E 00	0.40970E 02
60.	0.60931E 00	0.40135E 02
55.	0.57011E 00	0.39027E 02
50.	0.52788E 00	0.37343E 02
45.	0.48610E-00	0.34767E 02
40.	0.44770E-00	0.31241E 02
35.	0.41254E-00	0.27000E 02
30.	0.37794E-00	0.22304E 02
25.	0.33867E-00	0.17304E 02
20.	0.28182E-00	0.12116E 02
15.	0.16024E-00	0.72350E 01
10.	-0.76268E 00	0.14868E 02

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.75300E 00	0.79300E 00	0.76573E 02	0.55430E 01
100.	0.75683E 00	0.76483E 00	0.82847E 02	0.53945E 01
90.	0.74270E 00	0.73294E 00	0.89709E 02	0.48694E 01
80.	0.70751E 00	0.69653E 00	0.96516E 02	0.37147E 01
70.	0.66660E 00	0.64906E 00	0.10195E 03	0.15693E 01
65.	0.66095E 00	0.61301E 00	0.10444E 03	0.53294E 00
60.	0.66771E 00	0.56388E 00	0.10713E 03	-0.48790E-01
55.	0.68390E 00	0.49832E-00	0.11002E 03	0.56746E-01
50.	0.70444E 00	0.41264E-00	0.11281E 03	0.10095E 01
45.	0.72225E 00	0.30259E-00	0.11478E 03	0.29910E 01
40.	0.72872E 00	0.16315E-00	0.11480E 03	0.64102E 01
35.	0.71823E 00	-0.15361E-01	0.11200E 03	0.12371E 02
30.	0.69203E 00	-0.25623E-00	0.10668E 03	0.23189E 02
25.	0.65559E 00	-0.60918E 00	0.10009E 03	0.43048E 02
20.	0.62227E 00	-0.11917E 01	0.94805E 02	0.80941E 02
15.	0.62037E 00	-0.23783E 01	0.95637E 02	0.16419E 03
10.	0.13452E 01	-0.60562E 01	0.20275E 03	0.42902E 03

MODE 3

PERIOD	VM/VO	YM/VO/K
65.	0.55539E 00	0.56757E 02
60.	0.50276E 00	0.56642E 02
55.	0.44989E-00	0.54849E 02
50.	0.39145E-00	0.52334E 02
45.	0.31821E-00	0.49926E 02
40.	0.22290E-00	0.47595E 02
35.	0.11355E-00	0.44055E 02
30.	0.22345E-01	0.37784E 02
25.	-0.45894E-01	0.29902E 02
20.	-0.11370E-00	0.21773E 02
15.	-0.24636E-00	0.14505E 02
10.	-0.10207E 01	0.16263E 02

TABLE 15

SHIELD

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 70 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.50996E 00	0.10364E 01	0.20561E 02	-0.10533E 02
300.	-0.43956E-00	0.10383E 01	0.22522E 02	-0.13107E 02
250.	-0.37666E-00	0.10426E 01	0.24672E 02	-0.17359E 02
225.	-0.34624E-00	0.10455E 01	0.25936E 02	-0.20271E 02
200.	-0.31423E-00	0.10487E 01	0.27428E 02	-0.23788E 02
175.	-0.27836E-00	0.10515E 01	0.29243E 02	-0.27996E 02
150.	-0.23566E-00	0.10527E 01	0.31500E 02	-0.32997E 02
140.	-0.21578E-00	0.10522E 01	0.32559E 02	-0.35241E 02
130.	-0.19382E-00	0.10506E 01	0.33723E 02	-0.37628E 02
120.	-0.16936E-00	0.10475E 01	0.35000E 02	-0.40155E 02
110.	-0.14195E-00	0.10422E 01	0.36397E 02	-0.42808E 02
100.	-0.11107E-00	0.10337E 01	0.37909E 02	-0.45552E 02
90.	-0.76195E-01	0.10201E 01	0.39514E 02	-0.48318E 02
80.	-0.36849E-01	0.99879E 00	0.41149E 02	-0.50962E 02
70.	0.70843E-02	0.96509E 00	0.42658E 02	-0.53204E 02
65.	0.30576E-01	0.94130E 00	0.43269E 02	-0.54014E 02
60.	0.54733E-01	0.91102E 00	0.43692E 02	-0.54477E 02
55.	0.79008E-01	0.87225E 00	0.43813E 02	-0.54427E 02
50.	0.10241E-00	0.82236E 00	0.43457E 02	-0.53635E 02
45.	0.12334E-00	0.75779E 00	0.42368E 02	-0.51765E 02
40.	0.13904E-00	0.67421E 00	0.40148E 02	-0.48370E 02
35.	0.14526E-00	0.56669E 00	0.36245E 02	-0.42863E 02
30.	0.13605E-00	0.43180E-00	0.29983E 02	-0.34629E 02
25.	0.10556E-00	0.27388E-00	0.20936E 02	-0.23495E 02
20.	0.56496E-01	0.12001E-00	0.10267E 02	-0.11157E 02
15.	0.13948E-01	0.24534E-01	0.23653E 01	-0.25009E 01
10.	0.61051E-03	0.97413E-03	0.98410E-01	-0.10826E-00

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.61295E-01	0.98276E 00	0.35749E 02	-0.12806E 01
225.	0.14257E-00	0.97151E 00	0.39161E 02	-0.98066E 00
200.	0.20816E-00	0.95876E 00	0.43260E 02	-0.69333E 00
175.	0.25396E-00	0.94428E 00	0.48342E 02	-0.54235E 00
150.	0.27114E-00	0.92849E 00	0.54675E 02	-0.94282E 00
140.	0.26880E-00	0.92187E 00	0.57597E 02	-0.14565E 01
130.	0.26233E-00	0.91485E 00	0.60746E 02	-0.23079E 01
120.	0.25420E-00	0.90681E 00	0.64137E 02	-0.35925E 01
110.	0.24797E-00	0.89655E 00	0.67801E 02	-0.53701E 01
100.	0.24747E-00	0.88214E 00	0.71782E 02	-0.76371E 01
90.	0.25596E-00	0.86071E 00	0.76106E 02	-0.10315E 02
80.	0.27578E-00	0.82789E 00	0.80703E 02	-0.13237E 02
70.	0.30795E-00	0.77682E 00	0.85291E 02	-0.16086E 02
65.	0.32851E-00	0.74110E 00	0.87402E 02	-0.17286E 02
60.	0.35177E-00	0.69574E 00	0.89260E 02	-0.18124E 02
55.	0.37743E-00	0.63744E 00	0.90766E 02	-0.18307E 02
50.	0.40514E-00	0.56125E 00	0.91835E 02	-0.17374E 02
45.	0.43425E-00	0.45978E-00	0.92375E 02	-0.14629E 02
40.	0.46351E-00	0.32186E-00	0.92244E 02	-0.90300E 01
35.	0.49045E-00	0.13038E-00	0.91176E 02	0.10076E 01
30.	0.51037E 00	-0.14093E-00	0.88681E 02	0.17920E 02
25.	0.51459E 00	-0.52999E 00	0.83876E 02	0.45304E 02
20.	0.48679E-00	-0.10720E 01	0.75126E 02	0.86904E 02
15.	0.38339E-00	-0.16307E 01	0.57139E 02	0.13271E 03
10.	-0.10280E-00	-0.37300E-00	-0.16618E 02	0.30736E 02

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.55306E 00	0.82635E 00	0.75843E 02	0.50934E 00
100.	0.55150E 00	0.80202E 00	0.81934E 02	0.17458E-00
90.	0.54022E 00	0.77302E 00	0.88693E 02	-0.41428E-00
80.	0.52051E 00	0.73700E 00	0.95778E 02	-0.15161E 01
70.	0.49795E-00	0.68904E 00	0.10201E 03	-0.36400E 01
65.	0.49523E-00	0.65464E 00	0.10459E 03	-0.49491E 01
60.	0.50215E 00	0.60813E 00	0.10694E 03	-0.60021E 01
55.	0.51812E 00	0.54513E 00	0.10908E 03	-0.63816E 01
50.	0.54047E 00	0.46050E-00	0.11083E 03	-0.56502E 01
45.	0.56467E 00	0.34778E-00	0.11165E 03	-0.32862E 01
40.	0.58386E 00	0.19886E-00	0.11058E 03	0.14668E 01
35.	0.58912E 00	0.29668E-02	0.10636E 03	0.98605E 01
30.	0.57130E 00	-0.25659E-00	0.97877E 02	0.23984E 02
25.	0.52009E 00	-0.60408E 00	0.84234E 02	0.46706E 02
20.	0.41584E-00	-0.10454E 01	0.63567E 02	0.79556E 02
15.	0.21508E-00	-0.13757E 01	0.30763E 02	0.10738E 03
10.	-0.19681E-00	-0.10360E-00	-0.31142E 02	0.80160E 01

LOVE

MODE 0

PERIOD	VM/VO	VM/VO/K
350.	0.98396E 00	0.74376E 01
300.	0.97979E 00	0.74845E 01
250.	0.97344E 00	0.75251E 01
225.	0.96883E 00	0.75651E 01
200.	0.96262E 00	0.76378E 01
175.	0.95387E 00	0.77662E 01
150.	0.94084E 00	0.79870E 01
140.	0.93374E 00	0.81138E 01
130.	0.92507E 00	0.82708E 01
120.	0.91429E 00	0.84655E 01
110.	0.90066E 00	0.87079E 01
100.	0.88304E 00	0.90110E 01
90.	0.85969E 00	0.93917E 01
80.	0.82782E 00	0.98701E 01
70.	0.78283E 00	0.10465E 02
65.	0.75316E 00	0.10806E 02
60.	0.71692E 00	0.11166E 02
55.	0.67236E 00	0.11520E 02
50.	0.61736E 00	0.11813E 02
45.	0.54989E 00	0.11926E 02
40.	0.46887E-00	0.11652E 02
35.	0.37547E-00	0.10716E 02
30.	0.27413E-00	0.89278E 01
25.	0.17338E-00	0.63669E 01
20.	0.86423E-01	0.35261E 01
15.	0.27737E-01	0.12359E 01
10.	0.32006E-02	0.15250E-00

MODE 1

PERIOD	VM/VO	VM/VO/K
200.	0.93301E 00	0.24033E 02
175.	0.91464E 00	0.26080E 02
150.	0.88967E 00	0.27368E 02
140.	0.87706E 00	0.27646E 02
130.	0.86220E 00	0.27799E 02
120.	0.84463E 00	0.27840E 02
110.	0.82341E 00	0.27781E 02
100.	0.79732E 00	0.27616E 02
90.	0.76461E 00	0.27317E 02
80.	0.72273E 00	0.26822E 02
70.	0.66761E 00	0.26064E 02
65.	0.63295E 00	0.25580E 02
60.	0.59165E 00	0.25044E 02
55.	0.54130E 00	0.24493E 02
50.	0.47812E-00	0.24000E 02
45.	0.39583E-00	0.23695E 02
40.	0.28366E-00	0.23798E 02
35.	0.12357E-00	0.24608E 02
30.	-0.11345E-00	0.26451E 02
25.	-0.47314E-00	0.29686E 02
20.	-0.10191E 01	0.34707E 02
15.	-0.17203E 01	0.39998E 02
10.	-0.88450E 00	0.12420E 02

MODE 2

PERIOD	VM/VO	VM/VO/K
100.	0.74282E 00	0.44292E 02
90.	0.69468E 00	0.45378E 02
80.	0.63701E 00	0.44950E 02
70.	0.56256E 00	0.43784E 02
65.	0.51539E 00	0.43115E 02
60.	0.45898E-00	0.42399E 02
55.	0.39097E-00	0.41563E 02
50.	0.30877E-00	0.40465E 02
45.	0.20912E-00	0.38952E 02
40.	0.86163E-01	0.37011E 02
35.	-0.72650E-01	0.34893E 02
30.	-0.29092E-00	0.33011E 02
25.	-0.60557E 00	0.31721E 02
20.	-0.10550E 01	0.31030E 02
15.	-0.15451E 01	0.29096E 02
10.	-0.45164E-00	0.32786E-00

MODE 3

PERIOD	VM/VO	VM/VO/K
70.	0.50144E 00	0.57001E 02
65.	0.43936E-00	0.57541E 02
60.	0.37211E-00	0.56556E 02
55.	0.29633E-00	0.54552E 02
50.	0.20702E-00	0.51983E 02
45.	0.96522E-01	0.49189E 02
40.	-0.44270E-01	0.46136E 02
35.	-0.22212E-00	0.42262E 02
30.	-0.43970E-00	0.36987E 02
25.	-0.71066E 00	0.30761E 02
20.	-0.10494E 01	0.24068E 02
15.	-0.12989E 01	0.15153E 02
10.	-0.26192E-00	-0.45045E 01

TABLE 16

OCEAN

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 100 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.42725E-00	0.10408E 01	0.28729E 02	-0.17574E 02
300.	-0.32288E-00	0.10361E 01	0.31140E 02	-0.20323E 02
250.	-0.22194E-00	0.10305E 01	0.33119E 02	-0.24897E 02
225.	-0.17335E-00	0.10269E 01	0.33934E 02	-0.27997E 02
200.	-0.12466E-00	0.10217E 01	0.34671E 02	-0.31603E 02
175.	-0.74350E-01	0.10134E 01	0.35353E 02	-0.35626E 02
150.	-0.20832E-01	0.99922E 00	0.35972E 02	-0.39891E 02
140.	0.18077E-02	0.99079E 00	0.36189E 02	-0.41594E 02
130.	0.25250E-01	0.98007E 00	0.36373E 02	-0.43244E 02
120.	0.49486E-01	0.96634E 00	0.36505E 02	-0.44792E 02
110.	0.74402E-01	0.94865E 00	0.36553E 02	-0.46168E 02
100.	0.99624E-01	0.92567E 00	0.36463E 02	-0.47275E 02
90.	0.12473E-00	0.89560E 00	0.36147E 02	-0.47976E 02
80.	0.14835E-00	0.85586E 00	0.35468E 02	-0.48069E 02
70.	0.16846E-00	0.80285E 00	0.34204E 02	-0.47260E 02
65.	0.17619E-00	0.76981E 00	0.33253E 02	-0.46385E 02
60.	0.18161E-00	0.73128E 00	0.32021E 02	-0.45097E 02
55.	0.18397E-00	0.68619E 00	0.30441E 02	-0.43301E 02
50.	0.18234E-00	0.63322E 00	0.28438E 02	-0.40877E 02
45.	0.17562E-00	0.57072E 00	0.25928E 02	-0.37676E 02
40.	0.16258E-00	0.49679E-00	0.22821E 02	-0.33521E 02
35.	0.14193E-00	0.40945E-00	0.19036E 02	-0.28226E 02
30.	0.11275E-00	0.30755E-00	0.14539E 02	-0.21657E 02
25.	0.75485E-01	0.19361E-00	0.94354E 01	-0.13946E 02
20.	0.34459E-01	0.80839E-01	0.42262E 01	-0.60020E 01
15.	0.27817E-02	0.30893E-02	0.34286E-00	-0.41502E-00
10.	-0.	-0.	-0.	-0.

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.20054E-00	0.95046E 00	0.51008E 02	-0.28954E 01
225.	0.32226E-00	0.92464E 00	0.55859E 02	-0.16233E 01
200.	0.43011E-00	0.89369E 00	0.61536E 02	-0.17895E-00
175.	0.52212E 00	0.85541E 00	0.68461E 02	0.13709E 01
150.	0.58771E 00	0.80785E 00	0.76847E 02	0.25385E 01
140.	0.60458E 00	0.78539E 00	0.80585E 02	0.26872E 01
130.	0.61675E 00	0.75996E 00	0.84494E 02	0.25397E 01
120.	0.62615E 00	0.73010E 00	0.88530E 02	0.20492E 01
110.	0.63544E 00	0.69343E 00	0.92648E 02	0.12404E 01
100.	0.64729E 00	0.64638E 00	0.96780E 02	0.24990E-00
90.	0.66338E 00	0.58393E 00	0.10077E 03	-0.63885E 00
80.	0.68349E 00	0.49921E-00	0.10423E 03	-0.95395E 00
70.	0.70433E 00	0.38308E-00	0.10640E 03	0.52921E-01
65.	0.71319E 00	0.30936E-00	0.10668E 03	0.14173E 01
60.	0.72002E 00	0.22198E-00	0.10633E 03	0.36595E 01
55.	0.72438E 00	0.11695E-00	0.10539E 03	0.71184E 01
50.	0.72554E 00	-0.11400E-01	0.10390E 03	0.12226E 02
45.	0.72252E 00	-0.17156E-00	0.10190E 03	0.19576E 02
40.	0.71386E 00	-0.37629E-00	0.99413E 02	0.30026E 02
35.	0.69793E 00	-0.66654E 00	0.96443E 02	0.44942E 02
30.	0.67386E 00	-0.10203E 01	0.93151E 02	0.66774E 02
25.	0.64558E 00	-0.15803E 01	0.90412E 02	0.10079E 03
20.	0.63651E 00	-0.25590E 01	0.91925E 02	0.16171E 03
15.	0.77088E 00	-0.50073E 01	0.11641E 03	0.31616E 03
10.	0.20745E 01	-0.15772E 02	0.31235E 03	0.10001E 04

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.96514E 00	0.59406E 00	0.10419E 03	0.65293E 01
100.	0.97830E 00	0.53367E 00	0.11125E 03	0.63640E 01
90.	0.97331E 00	0.46156E-00	0.11850E 03	0.60848E 01
80.	0.94752E 00	0.37311E-00	0.12492E 03	0.60943E 01
70.	0.91300E 00	0.25550E-00	0.12851E 03	0.71630E 01
65.	0.90466E 00	0.17463E-00	0.12929E 03	0.85323E 01
60.	0.90258E 00	0.72379E-01	0.12963E 03	0.10868E 02
55.	0.90213E 00	-0.55794E-01	0.12931E 03	0.14485E 02
50.	0.89587E 00	-0.21412E-00	0.12775E 03	0.19705E 02
45.	0.87413E 00	-0.40584E-00	0.12394E 03	0.26960E 02
40.	0.82761E 00	-0.63282E 00	0.11684E 03	0.36952E 02
35.	0.75342E 00	-0.90084E 00	0.10622E 03	0.50752E 02
30.	0.65636E 00	-0.12330E 01	0.93037E 02	0.70009E 02
25.	0.54499E 00	-0.16899E 01	0.78868E 02	0.98288E 02
20.	0.43482E-00	-0.24408E 01	0.66308E 02	0.14571E 03
15.	0.33961E-00	-0.40472E 01	0.58474E 02	0.24640E 03
10.	0.65873E 00	-0.11971E 02	0.12099E 03	0.73519E 03

LOVE

MODE 0

PERIOD	VM/VO	YM/VO/K
350.	0.97884E 00	0.88551E 01
300.	0.97573E 00	0.83765E 01
250.	0.97224E 00	0.76388E 01
225.	0.97035E 00	0.71639E 01
200.	0.96838E 00	0.66085E 01
175.	0.96637E 00	0.59589E 01
150.	0.96443E 00	0.51912E 01
140.	0.96373E 00	0.48428E 01
130.	0.96311E 00	0.44655E 01
120.	0.96263E 00	0.40545E 01
110.	0.96237E 00	0.36038E 01
100.	0.96244E 00	0.31050E 01
90.	0.96302E 00	0.25471E 01
80.	0.96444E 00	0.19138E 01
70.	0.96725E 00	0.11810E 01
65.	0.96947E 00	0.76588E 00
60.	0.97250E 00	0.30942E-00
55.	0.97666E 00	-0.19807E-00
50.	0.98241E 00	-0.76996E 00
45.	0.99051E 00	-0.14254E 01
40.	0.10022E 01	-0.21927E 01
35.	0.10195E 01	-0.31153E 01
30.	0.10461E 01	-0.42617E 01
25.	0.10884E 01	-0.57392E 01
20.	0.11548E 01	-0.76776E 01
15.	0.12022E 01	-0.96516E 01
10.	0.94037E-01	-0.26402E-00

MODE 1

PERIOD	VM/VO	YM/VO/K
200.	0.89006E 00	0.31552E 02
175.	0.86064E 00	0.34355E 02
150.	0.82341E 00	0.35888E 02
140.	0.80583E 00	0.36055E 02
130.	0.78638E 00	0.35948E 02
120.	0.76475E 00	0.35565E 02
110.	0.74060E 00	0.34890E 02
100.	0.71370E 00	0.33880E 02
90.	0.68420E 00	0.32445E 02
80.	0.65292E 00	0.30457E 02
70.	0.62150E 00	0.27799E 02
65.	0.60632E 00	0.26205E 02
60.	0.59174E 00	0.24444E 02
55.	0.57787E 00	0.22529E 02
50.	0.56472E 00	0.20472E 02
45.	0.55223E 00	0.18285E 02
40.	0.54022E 00	0.15974E 02
35.	0.52819E 00	0.13538E 02
30.	0.51480E 00	0.10969E 02
25.	0.49538E-00	0.82692E 01
20.	0.45032E-00	0.55165E 01
15.	0.26946E-00	0.33041E 01
10.	-0.66959E 00	0.75737E 01

MODE 2

PERIOD	VM/VO	YM/VO/K
100.	0.58500E 00	0.56088E 02
90.	0.51137E 00	0.57463E 02
80.	0.43349E-00	0.56145E 02
70.	0.34336E-00	0.53336E 02
65.	0.28989E-00	0.51639E 02
60.	0.22945E-00	0.49696E 02
55.	0.16285E-00	0.47321E 02
50.	0.94147E-01	0.44231E 02
45.	0.30699E-01	0.40213E 02
40.	-0.21158E-01	0.35357E 02
35.	-0.59708E-01	0.29978E 02
30.	-0.85509E-01	0.24340E 02
25.	-0.98812E-01	0.18553E 02
20.	-0.10240E-00	0.12646E 02
15.	-0.13660E-00	0.68767E 01
10.	-0.17098E 01	0.96590E 01

MODE 3

PERIOD	VM/VO	YM/VO/K
65.	0.12382E-00	0.67845E 02
60.	0.34019E-01	0.65623E 02
55.	-0.52045E-01	0.61472E 02
50.	-0.14265E-00	0.56393E 02
45.	-0.25059E-00	0.50958E 02
40.	-0.38166E-00	0.44817E 02
35.	-0.51573E 00	0.37142E 02
30.	-0.60567E 00	0.28438E 02
25.	-0.64741E 00	0.20251E 02
20.	-0.66229E 00	0.12940E 02
15.	-0.71778E 00	0.63314E 01
10.	-0.17862E 01	0.11813E 01

TABLE 17

SHIELD

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 100 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.42131E-00	0.10414E 01	0.29175E 02	-0.16770E 02
300.	-0.33610E-00	0.10400E 01	0.31599E 02	-0.20115E 02
250.	-0.25484E-00	0.10392E 01	0.33902E 02	-0.25467E 02
225.	-0.21432E-00	0.10385E 01	0.35081E 02	-0.28999E 02
200.	-0.17209E-00	0.10366E 01	0.36339E 02	-0.33112E 02
175.	-0.12657E-00	0.10322E 01	0.37706E 02	-0.37796E 02
150.	-0.76048E-01	0.10225E 01	0.39180E 02	-0.42984E 02
140.	-0.54028E-01	0.10161E 01	0.39786E 02	-0.45158E 02
130.	-0.30613E-01	0.10075E 01	0.40388E 02	-0.47348E 02
120.	-0.63297E-02	0.99592E 00	0.40965E 02	-0.49508E 02
110.	0.19419E-01	0.98022E 00	0.41483E 02	-0.51565E 02
100.	0.46300E-01	0.95881E 00	0.41886E 02	-0.53405E 02
90.	0.73915E-01	0.92930E 00	0.42079E 02	-0.54848E 02
80.	0.10139E-00	0.88813E 00	0.41899E 02	-0.55602E 02
70.	0.12695E-00	0.82983E 00	0.41065E 02	-0.55191E 02
65.	0.13804E-00	0.79177E 00	0.40264E 02	-0.54318E 02
60.	0.14716E-00	0.74599E 00	0.39092E 02	-0.52823E 02
55.	0.15341E-00	0.69077E 00	0.37434E 02	-0.50527E 02
50.	0.15554E-00	0.62420E 00	0.35132E 02	-0.47215E 02
45.	0.15202E-00	0.54418E 00	0.32007E 02	-0.42623E 02
40.	0.14084E-00	0.44933E-00	0.27826E 02	-0.36515E 02
35.	0.12004E-00	0.34008E-00	0.22404E 02	-0.28757E 02
30.	0.88799E-01	0.22183E-00	0.15763E 02	-0.19608E 02
25.	0.50410E-01	0.10987E-00	0.85711E 01	-0.10227E 02
20.	0.16642E-01	0.31281E-01	0.27307E 01	-0.31014E 01
15.	0.17346E-02	0.28358E-02	0.27670E-00	-0.30251E-00
10.	-0.	-0.	-0.	-0.

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.17285E-00	0.95599E 00	0.51585E 02	-0.21003E 01
225.	0.26656E-00	0.93527E 00	0.56379E 02	-0.12539E 01
200.	0.34783E-00	0.91055E 00	0.62091E 02	-0.35069E-00
175.	0.41347E-00	0.88041E 00	0.69087E 02	0.45934E-00
150.	0.45605E-00	0.84331E 00	0.77601E 02	0.68089E 00
140.	0.46564E-00	0.82578E 00	0.81414E 02	0.39249E-00
130.	0.47196E-00	0.80582E 00	0.85412E 02	-0.23315E-00
120.	0.47703E-00	0.78209E 00	0.89547E 02	-0.12515E 01
110.	0.48361E-00	0.75233E 00	0.93778E 02	-0.26418E 01
100.	0.49433E-00	0.71313E 00	0.98051E 02	-0.42633E 01
90.	0.51085E 00	0.65956E 00	0.10225E 03	-0.58212E 01
80.	0.53319E 00	0.58456E 00	0.10607E 03	-0.68127E 01
70.	0.55896E 00	0.47775E-00	0.10890E 03	-0.63961E 01
65.	0.57150E 00	0.40778E-00	0.10962E 03	-0.52291E 01
60.	0.58261E 00	0.32314E-00	0.10969E 03	-0.30507E 01
55.	0.59140E 00	0.21975E-00	0.10901E 03	0.57260E 00
50.	0.59717E 00	0.91613E-01	0.10756E 03	0.62627E 01
45.	0.59950E 00	-0.70214E-01	0.10538E 03	0.14910E 02
40.	0.59837E 00	-0.27929E-00	0.10264E 03	0.27806E 02
35.	0.59481E 00	-0.55656E 00	0.99687E 02	0.46887E 02
30.	0.59253E 00	-0.93538E 00	0.97311E 02	0.75164E 02
25.	0.60256E 00	-0.14697E 01	0.97423E 02	0.11742E 03
20.	0.65375E 00	-0.22380E 01	0.10457E 03	0.18055E 03
15.	0.77557E 00	-0.31636E 01	0.12284E 03	0.25882E 03
10.	-0.31149E-01	-0.11414E-00	-0.48136E 01	0.95642E 01

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.76044E 00	0.66299E 00	0.10457E 03	0.39000E 01
100.	0.76964E 00	0.61176E 00	0.11168E 03	0.38195E 01
90.	0.76923E 00	0.54856E 00	0.11911E 03	0.36646E 01
80.	0.75909E 00	0.46767E-00	0.12606E 03	0.35514E 01
70.	0.74071E 00	0.35952E-00	0.13055E 03	0.38984E 01
65.	0.73399E 00	0.28742E-00	0.13139E 03	0.47025E 01
60.	0.73039E 00	0.19704E-00	0.13133E 03	0.64594E 01
55.	0.72783E 00	0.83251E-01	0.13028E 03	0.96718E 01
50.	0.72200E 00	-0.59426E-01	0.12790E 03	0.14887E 02
45.	0.70667E 00	-0.23655E-00	0.12346E 03	0.22755E 02
40.	0.67459E 00	-0.45315E-00	0.11603E 03	0.34140E 02
35.	0.62078E 00	-0.71415E 00	0.10501E 03	0.50263E 02
30.	0.54728E 00	-0.10288E 01	0.91014E 02	0.72750E 02
25.	0.46349E-00	-0.14121E 01	0.75881E 02	0.10325E 03
20.	0.38473E-00	-0.18532E 01	0.62228E 02	0.14095E 03
15.	0.31502E-00	-0.20688E 01	0.50361E 02	0.16311E 03
10.	-0.31199E-00	0.86350E 00	-0.48678E 02	-0.71515E 02

LOVE

MODE 0

PERIOD	VM/VO	VM/VO/K
350.	0.97293E 00	0.94529E 01
300.	0.96666E 00	0.92446E 01
250.	0.95749E 00	0.89169E 01
225.	0.95102E 00	0.87194E 01
200.	0.94246E 00	0.85083E 01
175.	0.93064E 00	0.82933E 01
150.	0.91336E 00	0.80889E 01
140.	0.90405E 00	0.80153E 01
130.	0.89275E 00	0.79500E 01
120.	0.87880E 00	0.78963E 01
110.	0.86127E 00	0.78593E 01
100.	0.83875E 00	0.78458E 01
90.	0.80908E 00	0.78651E 01
80.	0.76884E 00	0.79291E 01
70.	0.71241E 00	0.80477E 01
65.	0.67542E 00	0.81255E 01
60.	0.63053E 00	0.82057E 01
55.	0.57582E 00	0.82648E 01
50.	0.50931E 00	0.82490E 01
45.	0.42983E-00	0.80474E 01
40.	0.33878E-00	0.74740E 01
35.	0.24200E-00	0.63310E 01
30.	0.14967E-00	0.46051E 01
25.	0.74048E-01	0.26332E 01
20.	0.25234E-01	0.10145E 01
15.	0.42824E-02	0.18954E-00
10.	0.21582E-03	0.30990E-02

MODE 1

PERIOD	VM/VO	VM/VO/K
200.	0.87908E 00	0.32488E 02
175.	0.84696E 00	0.34942E 02
150.	0.80469E 00	0.36106E 02
140.	0.78382E 00	0.36162E 02
130.	0.75987E 00	0.35988E 02
120.	0.73201E 00	0.35598E 02
110.	0.69908E 00	0.34996E 02
100.	0.65955E 00	0.34162E 02
90.	0.61136E 00	0.33042E 02
80.	0.55174E 00	0.31540E 02
70.	0.47635E-00	0.29559E 02
65.	0.43039E-00	0.28387E 02
60.	0.37663E-00	0.27124E 02
55.	0.31199E-00	0.25836E 02
50.	0.23125E-00	0.24645E 02
45.	0.12510E-00	0.23776E 02
40.	-0.23431E-01	0.23623E 02
35.	-0.24452E-00	0.24797E 02
30.	-0.59041E 00	0.28229E 02
25.	-0.11570E 01	0.35657E 02
20.	-0.21342E 01	0.51037E 02
15.	-0.37835E 01	0.81167E 02
10.	-0.23880E 01	0.49909E 02

MODE 2

PERIOD	VM/VO	VM/VO/K
100.	0.54962E 00	0.56334E 02
90.	0.47212E-00	0.56536E 02
80.	0.38363E-00	0.54499E 02
70.	0.27432E-00	0.51229E 02
65.	0.20709E-00	0.49348E 02
60.	0.12840E-00	0.47294E 02
55.	0.35958E-01	0.44972E 02
50.	-0.72362E-01	0.42243E 02
45.	-0.19911E-00	0.39020E 02
40.	-0.35081E-00	0.35459E 02
35.	-0.54475E 00	0.32066E 02
30.	-0.81671E 00	0.29642E 02
25.	-0.12300E 01	0.29363E 02
20.	-0.18853E 01	0.33429E 02
15.	-0.28184E 01	0.45422E 02
10.	-0.71763E 00	0.10526E 02

MODE 3

PERIOD	VM/VO	VM/VO/K
70.	0.16295E-00	0.65990E 02
65.	0.71951E-01	0.64680E 02
60.	-0.21594E-01	0.61434E 02
55.	-0.12176E-00	0.56914E 02
50.	-0.23428E-00	0.51630E 02
45.	-0.36708E-00	0.45835E 02
40.	-0.52679E 00	0.39334E 02
35.	-0.71271E 00	0.31669E 02
30.	-0.92085E 00	0.23237E 02
25.	-0.11717E 01	0.15796E 02
20.	-0.14958E 01	0.11058E 02
15.	-0.17388E 01	0.10475E 02
10.	-0.10577E-00	-0.18161E 01

TABLE 18

OCEAN

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 150 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.30851E-00	0.10341E 01	0.41614E 02	-0.24673E 02
300.	-0.19011E-00	0.10165E 01	0.44353E 02	-0.27775E 02
250.	-0.76038E-01	0.99252E 00	0.45743E 02	-0.32494E 02
225.	-0.23316E-01	0.97671E 00	0.45775E 02	-0.35423E 02
200.	0.26122E-01	0.95644E 00	0.45327E 02	-0.38547E 02
175.	0.71909E-01	0.92912E 00	0.44342E 02	-0.41620E 02
150.	0.11314E-00	0.89041E 00	0.42694E 02	-0.44246E 02
140.	0.12798E-00	0.87019E 00	0.41801E 02	-0.45030E 02
130.	0.14160E-00	0.84627E 00	0.40744E 02	-0.45572E 02
120.	0.15372E-00	0.81776E 00	0.39489E 02	-0.45789E 02
110.	0.16391E-00	0.78349E 00	0.37993E 02	-0.45573E 02
100.	0.17158E-00	0.74203E 00	0.36193E 02	-0.44789E 02
90.	0.17585E-00	0.69161E 00	0.34004E 02	-0.43267E 02
80.	0.17549E-00	0.63015E 00	0.31308E 02	-0.40797E 02
70.	0.16876E-00	0.55545E 00	0.27950E 02	-0.37145E 02
65.	0.16234E-00	0.51247E 00	0.25968E 02	-0.34799E 02
60.	0.15351E-00	0.46545E-00	0.23755E 02	-0.32069E 02
55.	0.14200E-00	0.41429E-00	0.21295E 02	-0.28936E 02
50.	0.12760E-00	0.35903E-00	0.18581E 02	-0.25391E 02
45.	0.11023E-00	0.29995E-00	0.15620E 02	-0.21449E 02
40.	0.90062E-01	0.23771E-00	0.12451E 02	-0.17161E 02
35.	0.67691E-01	0.17374E-00	0.91562E 01	-0.12641E 02
30.	0.44419E-01	0.11090E-00	0.58977E 01	-0.81227E 01
25.	0.22704E-01	0.54765E-01	0.29684E 01	-0.40408E 01
20.	0.65463E-02	0.14813E-01	0.84463E 00	-0.11101E 01
15.	0.19703E-03	0.31200E-03	0.18633E-01	-0.30388E-01
10.	-0.	-0.	-0.	-0.

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.36612E-00	0.86792E 00	0.74691E 02	-0.55463E 01
225.	0.50450E 00	0.81517E 00	0.81118E 02	-0.38472E 01
200.	0.63317E 00	0.74943E 00	0.88425E 02	-0.17233E 01
175.	0.75020E 00	0.66450E 00	0.96997E 02	0.84519E 00
150.	0.84390E 00	0.55253E 00	0.10670E 03	0.35861E 01
140.	0.87174E 00	0.49716E-00	0.11069E 03	0.46384E 01
130.	0.89342E 00	0.43330E-00	0.11454E 03	0.56455E 01
120.	0.90912E 00	0.35807E-00	0.11805E 03	0.66504E 01
110.	0.91907E 00	0.26736E-00	0.12096E 03	0.77942E 01
100.	0.92276E 00	0.15945E-00	0.12293E 03	0.93806E 01
90.	0.91831E 00	0.14785E-01	0.12344E 03	0.11969E 02
80.	0.90225E 00	-0.16426E-00	0.12173E 03	0.16522E 02
70.	0.87037E 00	-0.39329E-00	0.11687E 03	0.24590E 02
65.	0.84764E 00	-0.53100E 00	0.11306E 03	0.30593E 02
60.	0.82042E 00	-0.68778E 00	0.10835E 03	0.38304E 02
55.	0.78883E 00	-0.86824E 00	0.10283E 03	0.48047E 02
50.	0.75247E 00	-0.10788E 01	0.96561E 02	0.60210E 02
45.	0.71015E 00	-0.13286E 01	0.89479E 02	0.75308E 02
40.	0.65931E 00	-0.16305E 01	0.81360E 02	0.94082E 02
35.	0.59643E 00	-0.20046E 01	0.71721E 02	0.11768E 03
30.	0.51407E 00	-0.24855E 01	0.59702E 02	0.14817E 03
25.	0.39978E-00	-0.31508E 01	0.43657E 02	0.19020E 03
20.	0.22529E-00	-0.42376E 01	0.19820E 02	0.25821E 03
15.	-0.11502E-00	-0.69211E 01	-0.26183E 02	0.42456E 03
10.	-0.14336E 01	-0.19974E 02	-0.20196E 03	0.12309E 04

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.11704E 01	0.14852E-00	0.12962E 03	0.36615E 01
100.	0.11574E 01	0.25464E-01	0.13277E 03	0.31813E 01
90.	0.11127E 01	-0.12090E-00	0.13400E 03	0.32907E 01
80.	0.10336E 01	-0.30010E-00	0.13190E 03	0.58334E 01
70.	0.93230E 00	-0.53093E 00	0.12437E 03	0.13683E 02
65.	0.87627E 00	-0.67485E 00	0.11787E 03	0.19588E 02
60.	0.81144E 00	-0.84120E 00	0.10913E 03	0.26779E 02
55.	0.73047E 00	-0.10297E 01	0.97554E 02	0.35413E 02
50.	0.62518E 00	-0.12363E 01	0.82362E 02	0.45701E 02
45.	0.49073E-00	-0.14515E 01	0.63211E 02	0.57907E 02
40.	0.33359E-00	-0.16651E 01	0.41216E 02	0.72409E 02
35.	0.17066E-00	-0.18746E 01	0.18806E 02	0.89306E 02
30.	0.89295E-02	-0.20876E 01	-0.29395E 01	0.10795E 03
25.	-0.16393E-00	-0.23244E 01	-0.25526E 02	0.12818E 03
20.	-0.39125E-00	-0.26380E 01	-0.54455E 02	0.15219E 03
15.	-0.84543E 00	-0.29836E 01	-0.11097E 03	0.17665E 03
10.	-0.30328E 01	-0.27830E 01	-0.38154E 03	0.16477E 03

LOVE

MODE 0

PERIOD	YM/VO	YM/VO/K
350.	0.94807E 00	0.14071E 02
300.	0.94038E 00	0.13473E 02
250.	0.93172E 00	0.12543E 02
225.	0.92698E 00	0.11953E 02
200.	0.92198E 00	0.11275E 02
175.	0.91677E 00	0.10505E 02
150.	0.91154E 00	0.96290E 01
140.	0.90954E 00	0.92455E 01
130.	0.90768E 00	0.88409E 01
120.	0.90605E 00	0.84137E 01
110.	0.90480E 00	0.79623E 01
100.	0.90414E 00	0.74852E 01
90.	0.90444E 00	0.69815E 01
80.	0.90629E 00	0.64509E 01
70.	0.91074E 00	0.58955E 01
65.	0.91450E 00	0.56103E 01
60.	0.91976E 00	0.53220E 01
55.	0.92712E 00	0.50335E 01
50.	0.93742E 00	0.47493E 01
45.	0.95204E 00	0.44774E 01
40.	0.97313E 00	0.42323E 01
35.	0.10043E 01	0.40413E 01
30.	0.10519E 01	0.39603E 01
25.	0.11264E 01	0.41104E 01
20.	0.12415E 01	0.47518E 01
15.	0.13460E 01	0.61225E 01
10.	0.75023E-01	0.56784E 00

MODE 1

PERIOD	YM/VO	YM/VO/K
200.	0.73695E 00	0.46465E 02
175.	0.66901E 00	0.49856E 02
150.	0.58458E 00	0.51160E 02
140.	0.54532E 00	0.50973E 02
130.	0.50235E 00	0.50359E 02
120.	0.45515E-00	0.49316E 02
110.	0.40323E-00	0.47829E 02
100.	0.34639E-00	0.45852E 02
90.	0.28534E-00	0.43299E 02
80.	0.22225E-00	0.40072E 02
70.	0.16093E-00	0.36122E 02
65.	0.13226E-00	0.33696E 02
60.	0.10553E-00	0.31530E 02
55.	0.81067E-01	0.29049E 02
50.	0.59154E-01	0.26480E 02
45.	0.40064E-01	0.23843E 02
40.	0.24149E-01	0.21158E 02
35.	0.11859E-01	0.18437E 02
30.	0.34724E-02	0.15687E 02
25.	-0.24719E-02	0.12892E 02
20.	-0.17142E-01	0.98943E 01
15.	-0.98328E-01	0.53036E 01
10.	-0.86546E 00	-0.45879E 01

MODE 2

PERIOD	YM/VO	YM/VO/K
100.	0.86459E-01	0.68616E 02
90.	-0.51723E-01	0.66614E 02
80.	-0.18887E-00	0.61152E 02
70.	-0.33519E-00	0.53506E 02
65.	-0.41538E-00	0.49010E 02
60.	-0.49974E-00	0.43973E 02
55.	-0.58430E 00	0.38313E 02
50.	-0.66088E 00	0.32105E 02
45.	-0.71900E 00	0.25724E 02
40.	-0.75175E 00	0.19689E 02
35.	-0.75742E 00	0.14299E 02
30.	-0.73374E 00	0.95954E 01
25.	-0.67292E 00	0.55232E 01
20.	-0.55982E 00	0.20288E 01
15.	-0.38639E-00	-0.12124E 01
10.	-0.31158E-00	-0.27934E 02

MODE 3

PERIOD	YM/VO	YM/VO/K
65.	-0.64589E 00	0.52550E 02
60.	-0.74635E 00	0.44014E 02
55.	-0.82620E 00	0.34553E 02
50.	-0.89133E 00	0.24575E 02
45.	-0.94245E 00	0.13599E 02
40.	-0.96103E 00	0.11520E 01
35.	-0.91387E 00	-0.10932E 02
30.	-0.80549E 00	-0.17876E 02
25.	-0.66309E 00	-0.19607E 02
20.	-0.47523E-00	-0.18649E 02
15.	-0.18969E-00	-0.17348E 02
10.	0.75511E 00	-0.29890E 02

TABLE 19

SHIELD

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 150 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.29200E-00	0.10371E 01	0.42167E 02	-0.25760E 02
300.	-0.18958E-00	0.10253E 01	0.44812E 02	-0.29540E 02
250.	-0.90445E-01	0.10094E 01	0.46478E 02	-0.35167E 02
225.	-0.42299E-01	0.99822E 00	0.46896E 02	-0.38586E 02
200.	0.53026E-02	0.98303E 00	0.47009E 02	-0.42241E 02
175.	0.52296E-01	0.96125E 00	0.46729E 02	-0.45922E 02
150.	0.97880E-01	0.92853E 00	0.45869E 02	-0.49268E 02
140.	0.11530E-00	0.91079E 00	0.45292E 02	-0.50376E 02
130.	0.13192E-00	0.88935E 00	0.44533E 02	-0.51257E 02
120.	0.14740E-00	0.86321E 00	0.43549E 02	-0.51818E 02
110.	0.16121E-00	0.83102E 00	0.42273E 02	-0.51935E 02
100.	0.17260E-00	0.79102E 00	0.40622E 02	-0.51436E 02
90.	0.18044E-00	0.74083E 00	0.38472E 02	-0.50092E 02
80.	0.18311E-00	0.67730E 00	0.35657E 02	-0.47588E 02
70.	0.17822E-00	0.59641E 00	0.31941E 02	-0.43516E 02
65.	0.17199E-00	0.54798E 00	0.29655E 02	-0.40734E 02
60.	0.16259E-00	0.49345E-00	0.27028E 02	-0.37367E 02
55.	0.14956E-00	0.43235E-00	0.24023E 02	-0.33354E 02
50.	0.13242E-00	0.36472E-00	0.20606E 02	-0.28669E 02
45.	0.11119E-00	0.29095E-00	0.16809E 02	-0.23312E 02
40.	0.86064E-01	0.21352E-00	0.12685E 02	-0.17456E 02
35.	0.58585E-01	0.13709E-00	0.84547E 01	-0.11460E 02
30.	0.32027E-01	0.70038E-01	0.45490E 01	-0.60107E 01
25.	0.11623E-01	0.23400E-01	0.16348E 01	-0.20777E 01
20.	0.18224E-02	0.33141E-02	0.25546E-00	-0.30846E-00
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

LOVE

MODE 0

PERIOD	VM/VO	YM/VO/K
350.	0.94789E 00	0.13016E 02
300.	0.93771E 00	0.12435E 02
250.	0.92376E 00	0.11571E 02
225.	0.91443E 00	0.11030E 02
200.	0.90257E 00	0.10413E 02
175.	0.88680E 00	0.97124E 01
150.	0.86466E 00	0.89142E 01
140.	0.85303E 00	0.85635E 01
130.	0.83914E 00	0.81928E 01
120.	0.82224E 00	0.78006E 01
110.	0.80128E 00	0.73861E 01
100.	0.77469E 00	0.69492E 01
90.	0.74004E 00	0.64917E 01
80.	0.69344E 00	0.60190E 01
70.	0.62852E 00	0.55403E 01
65.	0.58615E 00	0.53012E 01
60.	0.53493E 00	0.50599E 01
55.	0.47292E-00	0.48059E 01
50.	0.39857E-00	0.45090E 01
45.	0.31229E-00	0.41012E 01
40.	0.21928E-00	0.34739E 01
35.	0.13123E-00	0.25566E 01
30.	0.62234E-01	0.14815E 01
25.	0.20624E-01	0.58703E 00
20.	0.37542E-02	0.12438E-00
15.	0.31648E-03	0.45552E-02
10.	-0.	-0.

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.34679E-00	0.88382E 00	0.76393E 02	-0.33799E 01
225.	0.45883E-00	0.84073E 00	0.83041E 02	-0.14835E 01
200.	0.56264E 00	0.78712E 00	0.90803E 02	0.73044E 00
175.	0.65542E 00	0.71836E 00	0.10002E 03	0.31742E 01
150.	0.72944E 00	0.62766E 00	0.11062E 03	0.55189E 01
140.	0.75216E 00	0.58251E 00	0.11506E 03	0.63351E 01
130.	0.77099E 00	0.53002E 00	0.11942E 03	0.70738E 01
120.	0.78662E 00	0.46754E-00	0.12352E 03	0.78049E 01
110.	0.79984E 00	0.39112E-00	0.12715E 03	0.87155E 01
100.	0.81069E 00	0.29531E-00	0.13003E 03	0.10163E 02
90.	0.81765E 00	0.17279E-00	0.13177E 03	0.12733E 02
80.	0.81723E 00	0.13845E-01	0.13175E 03	0.17338E 02
70.	0.80378E 00	-0.19417E-00	0.12910E 03	0.25380E 02
65.	0.79011E 00	-0.32169E-00	0.12649E 03	0.31317E 02
60.	0.77104E 00	-0.46871E-00	0.12296E 03	0.38990E 02
55.	0.74661E 00	-0.63985E 00	0.11860E 03	0.48864E 02
50.	0.71777E 00	-0.84258E 00	0.11367E 03	0.61578E 02
45.	0.68677E 00	-0.10895E 01	0.10866E 03	0.78095E 02
40.	0.65810E 00	-0.14023E 01	0.10440E 03	0.10001E 03
35.	0.64097E 00	-0.18216E 01	0.10241E 03	0.13024E 03
30.	0.65533E 00	-0.24300E 01	0.10577E 03	0.17473E 03
25.	0.74857E 00	-0.34207E 01	0.12164E 03	0.24740E 03
20.	0.10465E 01	-0.53159E 01	0.16877E 03	0.38606E 03
15.	0.18572E 01	-0.94332E 01	0.29180E 03	0.68607E 03
10.	-0.32686E-02	-0.30207E-01	-0.40625E-00	0.22274E 01

MODE 1

PERIOD	VM/VO	YM/VO/K
200.	0.75129E 00	0.45503E 02
175.	0.68852E 00	0.48195E 02
150.	0.60951E 00	0.48689E 02
140.	0.57199E 00	0.48194E 02
130.	0.53008E 00	0.47308E 02
120.	0.48274E-00	0.46040E 02
110.	0.42861E-00	0.44392E 02
100.	0.36605E-00	0.42331E 02
90.	0.29319E-00	0.39785E 02
80.	0.20791E-00	0.36651E 02
70.	0.10695E-00	0.32862E 02
65.	0.48357E-01	0.30750E 02
60.	-0.18425E-01	0.28560E 02
55.	-0.97822E-01	0.26401E 02
50.	-0.19837E-00	0.24470E 02
45.	-0.33705E-00	0.23126E 02
40.	-0.54794E 00	0.23009E 02
35.	-0.89827E 00	0.25237E 02
30.	-0.15239E 01	0.31901E 02
25.	-0.27431E 01	0.47907E 02
20.	-0.54690E 01	0.87489E 02
15.	-0.12674E 02	0.19553E 03
10.	-0.14800E 02	0.21823E 03

MODE 2

PERIOD	VM/VO	YM/VO/K
100.	0.13809E-00	0.67399E 02
90.	0.13083E-01	0.64577E 02
80.	-0.11839E-00	0.58804E 02
70.	-0.26774E-00	0.51258E 02
65.	-0.35391E-00	0.46991E 02
60.	-0.44985E-00	0.42349E 02
55.	-0.55618E 00	0.37259E 02
50.	-0.67278E 00	0.31707E 02
45.	-0.80106E 00	0.25892E 02
40.	-0.95109E 00	0.20307E 02
35.	-0.11533E 01	0.15645E 02
30.	-0.14764E 01	0.12787E 02
25.	-0.20741E 01	0.13497E 02
20.	-0.33513E 01	0.23051E 02
15.	-0.65265E 01	0.59255E 02
10.	-0.30240E 01	0.34089E 02

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.10192E 01	0.28488E-00	0.13805E 03	0.97436E 01
100.	0.10200E 01	0.17724E-00	0.14308E 03	0.10456E 02
90.	0.10019E 01	0.45324E-01	0.14668E 03	0.11769E 02
80.	0.96048E 00	-0.12033E-00	0.14737E 03	0.14722E 02
70.	0.89420E 00	-0.33307E-00	0.14277E 03	0.21655E 02
65.	0.85283E 00	-0.46380E-00	0.13779E 03	0.27211E 02
60.	0.80386E 00	-0.61473E 00	0.13080E 03	0.34339E 02
55.	0.74306E 00	-0.78793E 00	0.12150E 03	0.43198E 02
50.	0.66475E 00	-0.98352E 00	0.10935E 03	0.53954E 02
45.	0.56367E 00	-0.11983E 01	0.93816E 02	0.66747E 02
40.	0.43973E-00	-0.14266E 01	0.75034E 02	0.81784E 02
35.	0.30559E-00	-0.16683E 01	0.54984E 02	0.99709E 02
30.	0.18725E-00	-0.19464E 01	0.37585E 02	0.12215E 03
25.	0.11512E-00	-0.23240E 01	0.27341E 02	0.15269E 03
20.	0.13496E-00	-0.29351E 01	0.30781E 02	0.19992E 03
15.	0.33210E-00	-0.38759E 01	0.59151E 02	0.27070E 03
10.	-0.11933E 01	0.58490E 01	-0.18065E 03	-0.42485E 03

MODE 3

PERIOD	VM/VO	YM/VO/K
70.	-0.44233E-00	0.59401E 02
65.	-0.55032E 00	0.52959E 02
60.	-0.66830E 00	0.44943E 02
55.	-0.74006E 00	0.36088E 02
50.	-0.82884E 00	0.26734E 02
45.	-0.91512E 00	0.16755E 02
40.	-0.98983E 00	0.57747E 01
35.	-0.10340E 01	-0.58211E 01
30.	-0.10529E 01	-0.15636E 02
25.	-0.11129E 01	-0.21467E 02
20.	-0.13284E 01	-0.22490E 02
15.	-0.18768E 01	-0.13953E 02
10.	-0.12694E-01	-0.78195E 00

TABLE 20

OCEAN

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 200 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/W0	WM/W0	ZM/W0/K	XM/W0/K
350.	-0.20804E-00	0.10142E 01	0.53091E 02	-0.31697E 02
300.	-0.82485E-01	0.97965E 00	0.55597E 02	-0.34532E 02
250.	0.34610E-01	0.93237E 00	0.55614E 02	-0.38289E 02
225.	0.85237E-01	0.90207E 00	0.54403E 02	-0.40287E 02
200.	0.12871E-00	0.86513E 00	0.52300E 02	-0.42062E 02
175.	0.16330E-00	0.81879E 00	0.49211E 02	-0.43287E 02
150.	0.18652E-00	0.75876E 00	0.44974E 02	-0.43508E 02
140.	0.19140E-00	0.72947E 00	0.42907E 02	-0.43168E 02
130.	0.19464E-00	0.69628E 00	0.40599E 02	-0.42496E 02
120.	0.19441E-00	0.65842E 00	0.38027E 02	-0.41414E 02
110.	0.19083E-00	0.61498E 00	0.35164E 02	-0.39831E 02
100.	0.18346E-00	0.56494E 00	0.31978E 02	-0.37640E 02
90.	0.17181E-00	0.50720E 00	0.28438E 02	-0.34722E 02
80.	0.15537E-00	0.44083E-00	0.24516E 02	-0.30964E 02
70.	0.13373E-00	0.36554E-00	0.20198E 02	-0.26297E 02
65.	0.12094E-00	0.32478E-00	0.17901E 02	-0.23625E 02
60.	0.10691E-00	0.28229E-00	0.15529E 02	-0.20749E 02
55.	0.91804E-01	0.23857E-00	0.13104E 02	-0.17704E 02
50.	0.75897E-01	0.19433E-00	0.10663E 02	-0.14546E 02
45.	0.59607E-01	0.15057E-00	0.82575E 01	-0.11357E 02
40.	0.43543E-01	0.10863E-00	0.59598E 01	-0.82479E 01
35.	0.28532E-01	0.70304E-01	0.38669E 01	-0.53698E 01
30.	0.15648E-01	0.37964E-01	0.21047E 01	-0.29179E 01
25.	0.61601E-02	0.14557E-01	0.82385E 00	-0.11292E 01
20.	0.11303E-02	0.24813E-02	0.15063E-00	-0.19641E-00
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

MODE 2,1

PERIOD	UM/W0	WM/W0	ZM/W0/K	XM/W0/K
250.	0.50483E 00	0.75683E 00	0.95211E 02	-0.82672E 01
225.	0.65176E 00	0.67138E 00	0.10212E 03	-0.57701E 01
200.	0.78982E 00	0.56341E 00	0.10953E 03	-0.24008E 01
175.	0.91498E 00	0.42252E-00	0.11751E 03	0.20374E 01
150.	0.10108E 01	0.23508E-00	0.12522E 03	0.77034E 01
140.	0.10355E 01	0.14234E-00	0.12773E 03	0.10424E 02
130.	0.10499E 01	0.36122E-01	0.12951E 03	0.13514E 02
120.	0.10518E 01	-0.86843E-01	0.13017E 03	0.17104E 02
110.	0.10383E 01	-0.23071E-00	0.12919E 03	0.21391E 02
100.	0.10050E 01	-0.40040E-00	0.12589E 03	0.26696E 02
90.	0.94592E 00	-0.60137E 00	0.11944E 03	0.33581E 02
80.	0.85585E 00	-0.83955E 00	0.10896E 03	0.43065E 02
70.	0.73568E 00	-0.11219E 01	0.94206E 02	0.56904E 02
65.	0.66798E 00	-0.12831E 01	0.85571E 02	0.66184E 02
60.	0.59823E 00	-0.14612E 01	0.76474E 02	0.77416E 02
55.	0.52780E 00	-0.16601E 01	0.67140E 02	0.90811E 02
50.	0.45702E-00	-0.18850E 01	0.57684E 02	0.10660E 03
45.	0.38471E-00	-0.21420E 01	0.48028E 02	0.12502E 03
40.	0.30867E-00	-0.24374E 01	0.37940E 02	0.14640E 03
35.	0.22501E-00	-0.27768E 01	0.26957E 02	0.17104E 03
30.	0.12827E-00	-0.31655E 01	0.14394E 02	0.19924E 03
25.	0.86023E-02	-0.36095E 01	-0.10296E 01	0.23141E 03
20.	-0.15418E-00	-0.41451E 01	-0.21986E 02	0.27002E 03
15.	-0.42750E-00	-0.51059E 01	-0.57455E 02	0.33755E 03
10.	-0.11382E 01	-0.84619E 01	-0.15064E 03	0.56767E 03

MODE 1,2

PERIOD	UM/W0	WM/W0	ZM/W0/K	XM/W0/K
110.	0.11546E 01	-0.32702E-00	0.12567E 03	0.44325E 01
100.	0.10653E 01	-0.48823E-00	0.11857E 03	0.42376E 01
90.	0.92043E 00	-0.66689E 00	0.10653E 03	0.52955E 01
80.	0.72181E 00	-0.86908E 00	0.88649E 02	0.10427E 02
70.	0.49442E-00	-0.11093E 01	0.64712E 02	0.23320E 02
65.	0.36607E-00	-0.12377E 01	0.49163E 02	0.31574E 02
60.	0.21903E-00	-0.13635E 01	0.30279E 02	0.40103E 02
55.	0.48529E-01	-0.14721E 01	0.76471E 01	0.48425E 02
50.	-0.14392E-00	-0.15433E 01	-0.18362E 02	0.56002E 02
45.	-0.34406E-00	-0.15549E 01	-0.45637E 02	0.62172E 02
40.	-0.52036E 00	-0.14992E 01	-0.69680E 02	0.66469E 02
35.	-0.64278E 00	-0.13899E 01	-0.86242E 02	0.68399E 02
30.	-0.71315E 00	-0.12222E 01	-0.95512E 02	0.65917E 02
25.	-0.75817E 00	-0.93550E 00	-0.10114E 03	0.54165E 02
20.	-0.82716E 00	-0.31591E-00	-0.10979E 03	0.18971E 02
15.	-0.10322E 01	0.17612E 01	-0.13635E 03	-0.11309E 03
10.	-0.22596E 01	0.16378E 02	-0.29786E 03	-0.10685E 04

LOVE

MODE 0

PERIOD	VM/V0	VM/V0/K
350.	0.90577E 00	0.18687E 02
300.	0.89158E 00	0.17867E 02
250.	0.87532E 00	0.16613E 02
225.	0.86623E 00	0.15823E 02
200.	0.85639E 00	0.14923E 02
175.	0.84572E 00	0.13905E 02
150.	0.83422E 00	0.12757E 02
140.	0.82942E 00	0.12258E 02
130.	0.82455E 00	0.11733E 02
120.	0.81968E 00	0.11182E 02
110.	0.81488E 00	0.10602E 02
100.	0.81031E 00	0.99942E 01
90.	0.80620E 00	0.93568E 01
80.	0.80292E 00	0.86916E 01
70.	0.80116E 00	0.80030E 01
65.	0.80118E 00	0.76527E 01
60.	0.80209E 00	0.73012E 01
55.	0.80421E 00	0.69520E 01
50.	0.80802E 00	0.66104E 01
45.	0.81416E 00	0.62848E 01
40.	0.82358E 00	0.59891E 01
35.	0.83750E 00	0.57469E 01
30.	0.85712E 00	0.55999E 01
25.	0.88140E 00	0.56203E 01
20.	0.89526E 00	0.58953E 01
15.	0.80179E 00	0.60639E 01
10.	0.22507E-01	0.25647E-00

MODE 1

PERIOD	VM/V0	VM/V0/K
200.	0.54049E 00	0.57762E 02
175.	0.42773E-00	0.60559E 02
150.	0.29104E-00	0.60264E 02
140.	0.22883E-00	0.59142E 02
130.	0.16178E-00	0.57431E 02
120.	0.89420E-01	0.55137E 02
110.	0.11438E-01	0.52257E 02
100.	-0.71865E-01	0.48768E 02
90.	-0.15883E-00	0.44643E 02
80.	-0.24576E-00	0.39891E 02
70.	-0.32720E-00	0.34628E 02
65.	-0.36412E-00	0.31876E 02
60.	-0.39779E-00	0.29089E 02
55.	-0.42787E-00	0.26299E 02
50.	-0.45407E-00	0.23532E 02
45.	-0.47608E-00	0.20809E 02
40.	-0.49346E-00	0.18142E 02
35.	-0.50553E 00	0.15538E 02
30.	-0.51146E 00	0.12994E 02
25.	-0.51057E 00	0.10476E 02
20.	-0.50019E 00	0.77714E 01
15.	-0.41113E-00	0.34787E 01
10.	-0.33037E-00	-0.30599E 01

MODE 2

PERIOD	VM/V0	VM/V0/K
100.	-0.41698E-00	0.62665E 02
90.	-0.57894E 00	0.54542E 02
80.	-0.72030E 00	0.43380E 02
70.	-0.84468E 00	0.30329E 02
65.	-0.89849E 00	0.23119E 02
60.	-0.94126E 00	0.15463E 02
55.	-0.96563E 00	0.76133E 01
50.	-0.96383E 00	0.24162E-00
45.	-0.93282E 00	-0.56481E 01
40.	-0.87604E 00	-0.93975E 01
35.	-0.79687E 00	-0.11100E 02
30.	-0.69304E 00	-0.11179E 02
25.	-0.55606E 00	-0.99904E 01
20.	-0.37157E-00	-0.77893E 01
15.	-0.10845E-00	-0.52563E 01
10.	0.25274E 01	-0.22520E 02

MODE 3

PERIOD	VM/V0	VM/V0/K
65.	-0.10048E 01	0.60878E 01
60.	-0.10003E 01	-0.67028E 01
55.	-0.95748E 00	-0.17464E 02
50.	-0.87212E 00	-0.26651E 02
45.	-0.72093F 00	-0.35140E 02
40.	-0.46987E-00	-0.41972E 02
35.	-0.13312E-00	-0.43164E 02
30.	0.16912E-00	-0.36669E 02
25.	0.39672E-00	-0.26945E 02
20.	0.59256E 00	-0.17011E 02
15.	0.84484E 00	-0.79242E 01
10.	0.22464E 01	0.21884E 01

TABLE 21

SHIELD

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 200 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.18770E-00	0.10181E 01	0.53553E 02	-0.33250E 02
300.	-0.77249E-01	0.99088E 00	0.55836E 02	-0.36804E 02
250.	0.25510E-01	0.95370E 00	0.56052E 02	-0.41556E 02
225.	0.71903E-01	0.92894E 00	0.55232E 02	-0.44091E 02
200.	0.11399E-00	0.89757E 00	0.53708E 02	-0.46419E 02
175.	0.15031E-00	0.85654E 00	0.51332E 02	-0.48205E 02
150.	0.17828E-00	0.80121E 00	0.47843E 02	-0.48960E 02
140.	0.18627E-00	0.77349E 00	0.46052E 02	-0.48808E 02
130.	0.19190E-00	0.74161E 00	0.43986E 02	-0.48295E 02
120.	0.19474E-00	0.70470E 00	0.41607E 02	-0.47329E 02
110.	0.19423E-00	0.66168E 00	0.38865E 02	-0.45797E 02
100.	0.18971E-00	0.61123E 00	0.35704E 02	-0.43557E 02
90.	0.18037E-00	0.55179E 00	0.32057E 02	-0.40440E 02
80.	0.16532E-00	0.48161E-00	0.27858E 02	-0.36254E 02
70.	0.14356E-00	0.39919E-00	0.23035E 02	-0.30819E 02
65.	0.12996E-00	0.35311E-00	0.20386E 02	-0.27592E 02
60.	0.11448E-00	0.30399E-00	0.17581E 02	-0.24032E 02
55.	0.97277E-01	0.25225E-00	0.14649E 02	-0.20169E 02
50.	0.78534E-01	0.19911E-00	0.11619E 02	-0.16100E 02
45.	0.59218E-01	0.14568E-00	0.86252E 01	-0.11912E 02
40.	0.40073E-01	0.95463E-01	0.57606E 01	-0.79008E 01
35.	0.22877E-01	0.52373E-01	0.32551E 01	-0.43955E 01
30.	0.97540E-02	0.21197E-01	0.13779E 01	-0.18116E 01
25.	0.23901E-02	0.48853E-02	0.33626E-00	-0.42876E-00
20.	-0.	-0.	-0.	-0.
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.49786E-00	0.77716E 00	0.98367E 02	-0.54747E 01
225.	0.62290E 00	0.70392E 00	0.10599E 03	-0.26671E 01
200.	0.74151E 00	0.61116E 00	0.11455E 03	0.80355E 00
175.	0.84945E 00	0.49017E-00	0.12412E 03	0.49845E 01
150.	0.93540E 00	0.32791E-00	0.13400E 03	0.99413E 01
140.	0.96024E 00	0.24659E-00	0.13758E 03	0.12263E 02
130.	0.97818E 00	0.15241E-00	0.14058E 03	0.14930E 02
120.	0.98826E 00	0.41821E-01	0.14266E 03	0.18141E 02
110.	0.98893E 00	-0.89864E-01	0.14341E 03	0.22194E 02
100.	0.97739E 00	-0.24847E-00	0.14229E 03	0.27524E 02
90.	0.94914E 00	-0.44096E-00	0.13865E 03	0.34769E 02
80.	0.89850E 00	-0.67547E 00	0.13166E 03	0.44887E 02
70.	0.82104E 00	-0.96157E 00	0.12060E 03	0.59346E 02
65.	0.77255E 00	-0.11281E 01	0.11354E 03	0.68860E 02
60.	0.71917E 00	-0.13140E 01	0.10566E 03	0.80366E 02
55.	0.66317E 00	-0.15250E 01	0.97309E 02	0.94337E 02
50.	0.60746E 00	-0.17713E 01	0.88935E 02	0.11146E 03
45.	0.55565E 00	-0.20711E 01	0.81098E 02	0.13291E 03
40.	0.51279E 00	-0.24592E 01	0.74543E 02	0.16091E 03
35.	0.48738E-00	-0.30052E 01	0.70465E 02	0.20011E 03
30.	0.49625E-00	-0.38651E 01	0.71183E 02	0.26113E 03
25.	0.57802E 00	-0.54383E 01	0.82000E 02	0.37160E 03
20.	0.83559E 00	-0.89332E 01	0.11711E 03	0.61569E 03
15.	0.15298E 01	-0.18146E 02	0.21254E 03	0.12596E 04
10.	-0.11933E-02	-0.18205E-01	-0.17059E-00	0.12869E 01

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.11108E 01	-0.18176E-00	0.14618E 03	0.11461E 02
100.	0.10620E 01	-0.33972E-00	0.14335E 03	0.12712E 02
90.	0.97455E 00	-0.52397E 00	0.13622E 03	0.15255E 02
80.	0.84200E 00	-0.74048E 00	0.12304E 03	0.20840E 02
70.	0.67243E 00	-0.99845E 00	0.10291E 03	0.33018E 02
65.	0.57512E 00	-0.11428E 01	0.89790E 02	0.41726E 02
60.	0.46499E-00	-0.12929E 01	0.74111E 02	0.51558E 02
55.	0.33708E-00	-0.14412E 01	0.55392E 02	0.61962E 02
50.	0.18788E-00	-0.15751E 01	0.33309E 02	0.72311E 02
45.	0.19218E-01	-0.16763E 01	0.82475E 01	0.81809E 02
40.	-0.15580E-00	-0.17292E 01	-0.17790E 02	0.89741E 02
35.	-0.31040E-00	-0.17427E 01	-0.40838E 02	0.96436E 02
30.	-0.42077E-00	-0.17718E 01	-0.57394E 02	0.10438E 03
25.	-0.48642E-00	-0.19219E 01	-0.67404E 02	0.11934E 03
20.	-0.51946E 00	-0.24250E 01	-0.72720E 02	0.15662E 03
15.	-0.50027E 00	-0.37871E 01	-0.70745E 02	0.25191E 03
10.	-0.10193E 01	0.14431E 02	-0.14115E 03	-0.10081E 04

LOVE

MODE 0

PERIOD	VM/VO	VM/VO/K
350.	0.91184E 00	0.17195E 02
300.	0.89643E 00	0.16372E 02
250.	0.87642E 00	0.15161E 02
225.	0.86365E 00	0.14405E 02
200.	0.84801E 00	0.13539E 02
175.	0.82808E 00	0.12549E 02
150.	0.80131E 00	0.11409E 02
140.	0.78772E 00	0.10902E 02
130.	0.77178E 00	0.10361E 02
120.	0.75279E 00	0.97803E 01
110.	0.72970E 00	0.91551E 01
100.	0.70096E 00	0.84788E 01
90.	0.66417E 00	0.77440E 01
80.	0.61546E 00	0.69415E 01
70.	0.54849E 00	0.60592E 01
65.	0.50514E 00	0.55818E 01
60.	0.45306E-00	0.50733E 01
55.	0.39051E-00	0.45228E 01
50.	0.31653E-00	0.39097E 01
45.	0.23297E-00	0.32000E 01
40.	0.14768E-00	0.23641E 01
35.	0.75030E-01	0.14488E 01
30.	0.27638E-01	0.64810E 00
25.	0.62389E-02	0.17648E-00
20.	0.62304E-03	0.20175E-01
15.	-0.	-0.
10.	-0.	-0.

MODE 1

PERIOD	VM/VO	VM/VO/K
200.	0.57237E 00	0.56823E 02
175.	0.47051E-00	0.58968E 02
150.	0.34725E-00	0.57974E 02
140.	0.29074E-00	0.56613E 02
130.	0.22918E-00	0.54710E 02
120.	0.16160E-00	0.52277E 02
110.	0.86867E-01	0.49312E 02
100.	0.38461E-02	0.45782E 02
90.	-0.88253E-01	0.41627E 02
80.	-0.18967E-00	0.36783E 02
70.	-0.30124E-00	0.31275E 02
65.	-0.36252E-00	0.28336E 02
60.	-0.43052E-00	0.25353E 02
55.	-0.51090E 00	0.22426E 02
50.	-0.61545E 00	0.19719E 02
45.	-0.76892E 00	0.17497E 02
40.	-0.10230E 01	0.16197E 02
35.	-0.14839E 01	0.16525E 02
30.	-0.23800E 01	0.19777E 02
25.	-0.42943E 01	0.29126E 02
20.	-0.90876E 01	0.54269E 02
15.	-0.23881E 02	0.12797E 03
10.	-0.34883E 02	0.15690E 03

MODE 2

PERIOD	VM/VO	VM/VO/K
100.	-0.32956E-00	0.64079E 02
90.	-0.47698E-00	0.56233E 02
80.	-0.61413E 00	0.45625E 02
70.	-0.74758E 00	0.33305E 02
65.	-0.81366E 00	0.26540E 02
60.	-0.87736E 00	0.19314E 02
55.	-0.93519E 00	0.11653E 02
50.	-0.98336E 00	0.37794E 01
45.	-0.10225E 01	-0.38219E 01
40.	-0.10654E 01	-0.10642E 02
35.	-0.11447E 01	-0.16665E 02
30.	-0.13273E 01	-0.22584E 02
25.	-0.17719E 01	-0.29698E 02
20.	-0.29672E 01	-0.40271E 02
15.	-0.67722E 01	-0.58319E 02
10.	-0.42072E 01	-0.17009E 02

MODE 3

PERIOD	VM/VO	VM/VO/K
70.	-0.88298E 00	0.25667E 02
65.	-0.92931E 00	0.13729E 02
60.	-0.94683E 00	0.21469E 01
55.	-0.93724E 00	-0.86000E 01
50.	-0.89676E 00	-0.18541E 02
45.	-0.81067E 00	-0.28021E 02
40.	-0.65066E 00	-0.36844E 02
35.	-0.39646E-00	-0.43168E 02
30.	-0.92226E-01	-0.44740E 02
25.	0.18547E-00	-0.43239E 02
20.	0.38406E-00	-0.42452E 02
15.	0.30090E-00	-0.44772E 02
10.	0.51002E-01	-0.33783E-00

TABLE 22

OCEAN

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 350 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.36703E-01	0.88277E 00	0.77940E 02	-0.50154E 02
300.	0.70985E-01	0.78660E 00	0.76706E 02	-0.50312E 02
250.	0.15067E-00	0.66480E 00	0.69491E 02	-0.48310E 02
225.	0.17375E-00	0.59483E 00	0.63463E 02	-0.45933E 02
200.	0.18430E-00	0.51887E 00	0.56039E 02	-0.42326E 02
175.	0.18186E-00	0.43722E-00	0.47448E 02	-0.37364E 02
150.	0.16608E-00	0.35078E-00	0.37927E 02	-0.31075E 02
140.	0.15599E-00	0.31518E-00	0.33921E 02	-0.28228E 02
130.	0.14382E-00	0.27916E-00	0.29839E 02	-0.25221E 02
120.	0.12963E-00	0.24290E-00	0.25712E 02	-0.22083E 02
110.	0.11360E-00	0.20664E-00	0.21582E 02	-0.18854E 02
100.	0.96032E-01	0.17068E-00	0.17509E 02	-0.15584E 02
90.	0.77440E-01	0.13547E-00	0.13575E 02	-0.12339E 02
80.	0.58629E-01	0.10160E-00	0.98986E 01	-0.92010E 01
70.	0.40544E-01	0.70345E-01	0.66084E 01	-0.63109E 01
65.	0.32187E-01	0.56140E-01	0.51597E 01	-0.50058E 01
60.	0.24531E-01	0.43162E-01	0.38703E 01	-0.38217E 01
55.	0.17760E-01	0.31631E-01	0.27596E 01	-0.27786E 01
50.	0.12025E-01	0.21769E-01	0.18417E 01	-0.18957E 01
45.	0.74656E-02	0.13742E-01	0.11247E 01	-0.11857E 01
40.	0.40606E-02	0.76706E-02	0.60541E 00	-0.65556E 00
35.	0.18213E-02	0.35610E-02	0.26836E-00	-0.30162E-00
30.	0.59947E-03	0.12028E-02	0.86991E-01	-0.10122E-00
25.	0.41647E-04	0.38079E-03	0.69261E-02	-0.31804E-01
20.	-0.	-0.	-0.	-0.
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.70792E 00	0.29815E-00	0.13130E 03	-0.17733E 02
225.	0.82715E 00	0.10636E-00	0.13190E 03	-0.12031E 02
200.	0.92400E 00	-0.13171E-00	0.12935E 03	-0.33873E 01
175.	0.98228E 00	-0.42951E-00	0.12177E 03	0.91439E 01
150.	0.97016E 00	-0.79627E 00	0.10571E 03	0.27358E 02
140.	0.93690E 00	-0.96271E 00	0.95946E 02	0.36922E 02
130.	0.88342E 00	-0.11388E 01	0.83821E 02	0.48082E 02
120.	0.80606E 00	-0.13203E 01	0.68976E 02	0.60795E 02
110.	0.69927E 00	-0.14982E 01	0.50981E 02	0.74573E 02
100.	0.55548E 00	-0.16548E 01	0.29426E 02	0.88257E 02
90.	0.36816E-00	-0.17628E 01	0.43280E 01	0.99908E 02
80.	0.14144E-00	-0.17904E 01	-0.22879E 02	0.10717E 03
70.	-0.93565E-01	-0.17273E 01	-0.48024E 02	0.10881E 03
65.	-0.19633E-00	-0.16749E 01	-0.57923E 02	0.10810E 03
60.	-0.28066E-00	-0.16227E 01	-0.65317E 02	0.10711E 03
55.	-0.34546E-00	-0.15774E 01	-0.70283E 02	0.10617E 03
50.	-0.39121E-00	-0.15441E 01	-0.73020E 02	0.10560E 03
45.	-0.42044E-00	-0.15211E 01	-0.73864E 02	0.10529E 03
40.	-0.43438E-00	-0.15037E 01	-0.72929E 02	0.10497E 03
35.	-0.43334E-00	-0.14792E 01	-0.70155E 02	0.10380E 03
30.	-0.41376E-00	-0.14315E 01	-0.65004E 02	0.10076E 03
25.	-0.37018E-00	-0.13276E 01	-0.56664E 02	0.93594E 02
20.	-0.29486E-00	-0.11157E 01	-0.44079E 02	0.78771E 02
15.	-0.18711E-00	-0.75112E 00	-0.27330E 02	0.53202E 02
10.	-0.70555E-01	-0.29657E-00	-0.10056E 02	0.21152E 02

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.21658E-00	-0.11269E 01	-0.17744E 02	0.17665E 02
100.	-0.97988E-01	-0.10703E 01	-0.56009E 02	0.19348E 02
90.	-0.44072E-00	-0.90098E 00	-0.93519E 02	0.20279E 02
80.	-0.75338E 00	-0.60669E 00	-0.12246E 03	0.18515E 02
70.	-0.97180E 00	-0.19634E-00	-0.13668E 03	0.84060E 01
65.	-0.10461E 01	0.95685E-01	-0.13846E 03	-0.37769E 01
60.	-0.10826E 01	0.47184E-00	-0.13477E 03	-0.22147E 02
55.	-0.10478E 01	0.92187E 00	-0.12193E 03	-0.45994E 02
50.	-0.89986E 00	0.13906E 01	-0.95974E 02	-0.72299E 02
45.	-0.62329E 00	0.17771E 01	-0.56715E 02	-0.95851E 02
40.	-0.28015E-00	0.19938E 01	-0.12937E 02	-0.11229E 03
35.	0.14367E-01	0.20658E 01	0.21997E 02	-0.12253E 03
30.	0.21197E-00	0.20923E 01	0.44003E 02	-0.13059E 03
25.	0.34024E-00	0.21658E 01	0.57759E 02	-0.14105E 03
20.	0.45901E-00	0.24641E 01	0.71730E 02	-0.16566E 03
15.	0.70245E 00	0.35390E 01	0.10477E 03	-0.24712E 03
10.	0.19809E 01	0.10629E 02	0.28581E 03	-0.73808E 03

LOVE

MODE 0

PERIOD	VM/VO	VM/VO/K
350.	0.71699E 00	0.30673E 02
300.	0.67543E 00	0.28957E 02
250.	0.62782E 00	0.26510E 02
225.	0.60112E 00	0.25018E 02
200.	0.57200E 00	0.23346E 02
175.	0.53998E 00	0.21484E 02
150.	0.50453E 00	0.19418E 02
140.	0.48926E-00	0.18528E 02
130.	0.47333E-00	0.17599E 02
120.	0.45670E-00	0.16629E 02
110.	0.43935E-00	0.15615E 02
100.	0.42125E-00	0.14555E 02
90.	0.40237E-00	0.13446E 02
80.	0.38268E-00	0.12287E 02
70.	0.36209E-00	0.11076E 02
65.	0.35140E-00	0.10451E 02
60.	0.34041E-00	0.98112E 01
55.	0.32904E-00	0.91573E 01
50.	0.31716E-00	0.84876E 01
45.	0.30457E-00	0.77997E 01
40.	0.29085E-00	0.70879E 01
35.	0.27513E-00	0.63403E 01
30.	0.25553E-00	0.55291E 01
25.	0.22752E-00	0.45895E 01
20.	0.18042E-00	0.33749E 01
15.	0.95513E-01	0.16631E 01
10.	0.40551E-03	0.70279E-02

MODE 1

PERIOD	VM/VO	VM/VO/K
200.	-0.18590E-00	0.67423E 02
175.	-0.40219E-00	0.61170E 02
150.	-0.62277E 00	0.48977E 02
140.	-0.70757E 00	0.42584E 02
130.	-0.78768E 00	0.35485E 02
120.	-0.86060E 00	0.27824E 02
110.	-0.92289E 00	0.19787E 02
100.	-0.96989E 00	0.11640E 02
90.	-0.99609E 00	0.38075E 01
80.	-0.99687E 00	-0.30989E 01
70.	-0.97126E 00	-0.84048E 01
65.	-0.94955E 00	-0.10305E 02
60.	-0.92278E 00	-0.11678E 02
55.	-0.89152E 00	-0.12539E 02
50.	-0.85605E 00	-0.12923E 02
45.	-0.81631E 00	-0.12876E 02
40.	-0.77178E 00	-0.12443E 02
35.	-0.72139E 00	-0.11664E 02
30.	-0.66332E 00	-0.10573E 02
25.	-0.59378E 00	-0.91805E 01
20.	-0.49863E-00	-0.73695E 01
15.	-0.28285E-00	-0.39751E 01
10.	-0.10977E-01	-0.18002E-00

MODE 2

PERIOD	VM/VO	VM/VO/K
100.	-0.93015E 00	-0.26188E 02
90.	-0.76240E 00	-0.44080E 02
80.	-0.51046E 00	-0.54294E 02
70.	-0.16727E-00	-0.56526E 02
65.	0.43187E-01	-0.54262E 02
60.	0.27285E-00	-0.49147E 02
55.	0.50178E 00	-0.40877E 02
50.	0.69587E 00	-0.30049E 02
45.	0.82197E 00	-0.18630E 02
40.	0.87136E 00	-0.88833E 01
35.	0.85591E 00	-0.18331E 01
30.	0.78659E 00	0.25650E 01
25.	0.66548E 00	0.46396E 01
20.	0.49121E-00	0.47054E 01
15.	0.30221E-00	0.35299E 01
10.	0.17375E 01	0.21868E 02

MODE 3

PERIOD	VM/VO	VM/VO/K
65.	0.61862E 00	-0.53826E 02
60.	0.84101E 00	-0.34940E 02
55.	0.96059E 00	-0.13975E 02
50.	0.97016E 00	0.71560E 01
45.	0.81967E 00	0.27933E 02
40.	0.42145E-00	0.43605E 02
35.	-0.16173E-00	0.43440E 02
30.	-0.59750E 00	0.28866E 02
25.	-0.80464E 00	0.13791E 02
20.	-0.87258E 00	0.28239E 01
15.	-0.89920E 00	-0.41395E 01
10.	-0.16764E 01	-0.14955E 02

TABLE 23

SHIELD

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 350 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	-0.24414E-02	0.88824E 00	0.78286E 02	-0.51281E 02
300.	0.94812E-01	0.80338E 00	0.76667E 02	-0.51750E 02
250.	0.16443E-00	0.69676E 00	0.69694E 02	-0.50506E 02
225.	0.18477E-00	0.63411E 00	0.64143E 02	-0.48646E 02
200.	0.19431E-00	0.56408E 00	0.57334E 02	-0.45592E 02
175.	0.19215E-00	0.48597E-00	0.49350E 02	-0.41123E 02
150.	0.17719E-00	0.39958E-00	0.40274E 02	-0.35120E 02
140.	0.16739E-00	0.36280E-00	0.36367E 02	-0.32289E 02
130.	0.15536E-00	0.32489E-00	0.32325E 02	-0.29227E 02
120.	0.14114E-00	0.28594E-00	0.28174E 02	-0.25950E 02
110.	0.12481E-00	0.24617E-00	0.23948E 02	-0.22491E 02
100.	0.10661E-00	0.20587E-00	0.19701E 02	-0.18889E 02
90.	0.86926E-01	0.16552E-00	0.15504E 02	-0.15211E 02
80.	0.66563E-01	0.12562E-00	0.11479E 02	-0.11528E 02
70.	0.46360E-01	0.87626E-01	0.77517E 01	-0.80067E 01
65.	0.36872E-01	0.69676E-01	0.60733E 01	-0.63455E 01
60.	0.27017E-01	0.53133E-01	0.45360E 01	-0.48203E 01
55.	0.19912E-01	0.38074E-01	0.31917E 01	-0.34392E 01
50.	0.12088E-01	0.26948E-01	0.19442E 01	-0.24253E 01
45.	0.75460E-02	0.14654E-01	0.11796E 01	-0.13125E 01
40.	0.36248E-02	0.71134E-02	0.56003E 00	-0.63534E 00
35.	0.12912E-02	0.25585E-02	0.19716E-00	-0.22851E-00
30.	0.21358E-03	0.66305E-03	0.33378E-01	-0.59651E-01
25.	-0.	-0.	-0.	-0.
20.	-0.	-0.	-0.	-0.
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.75538E 00	0.31859E-00	0.13993E 03	-0.12271E 02
225.	0.87035E 00	0.13861E-00	0.14304E 03	-0.58528E 01
200.	0.96668E 00	-0.86979E-01	0.14384E 03	0.29849E 01
175.	0.10272E 01	-0.37202E-00	0.14032E 03	0.14983E 02
150.	0.10217E 01	-0.73091E 00	0.12881E 03	0.31885E 02
140.	0.99318E 00	-0.89841E 00	0.12087E 03	0.40847E 02
130.	0.94644E 00	-0.10805E 01	0.11052E 03	0.51568E 02
120.	0.87911E 00	-0.12762E 01	0.97410E 02	0.64271E 02
110.	0.78731E 00	-0.14814E 01	0.81099E 02	0.78844E 02
100.	0.66500E 00	-0.16860E 01	0.61068E 02	0.94643E 02
90.	0.50508E 00	-0.18716E 01	0.36893E 02	0.11035E 03
80.	0.30440E-00	-0.20109E 01	0.88207E 01	0.12399E 03
70.	0.74259E-01	-0.20773E 01	-0.21075E 02	0.13357E 03
65.	-0.41441E-01	-0.20821E 01	-0.35307E 02	0.13664E 03
60.	-0.14951E-00	-0.20750E 01	-0.48116E 02	0.13892E 03
55.	-0.24486E-00	-0.20667E 01	-0.59003E 02	0.14103E 03
50.	-0.32552E-00	-0.20709E 01	-0.67909E 02	0.14379E 03
45.	-0.39356E-00	-0.21039E 01	-0.75300E 02	0.14829E 03
40.	-0.45512E-00	-0.21891E 01	-0.82186E 02	0.15615E 03
35.	-0.52151E 00	-0.23675E 01	-0.90309E 02	0.17034E 03
30.	-0.61419E 00	-0.27281E 01	-0.10294E 03	0.19732E 03
25.	-0.78152E 00	-0.34931E 01	-0.12738E 03	0.25314E 03
20.	-0.11545E 01	-0.53040E 01	-0.18323E 03	0.38393E 03
15.	-0.20755E 01	-0.99711E 01	-0.32002E 03	0.71903E 03
10.	-0.49949E-03	-0.21772E-02	-0.73773E-01	0.15766E-00

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	0.37601E-00	-0.11851E 01	0.20250E 02	0.22976E 02
100.	0.92164E-01	-0.12129E 01	-0.18324E 02	0.25949E 02
90.	-0.23479E-00	-0.11551E 01	-0.60752E 02	0.29004E 02
80.	-0.56918E 00	-0.97816E 00	-0.10141E 03	0.30491E 02
70.	-0.83995E 00	-0.68119E 00	-0.13096E 03	0.27238E 02
65.	-0.94154E 00	-0.46831E-00	-0.14042E 03	0.20762E 02
60.	-0.10179E 01	-0.18497E-00	-0.14589E 03	0.88183E 01
55.	-0.10556E 01	0.18562E-00	-0.14559E 03	-0.97056E 01
50.	-0.10277E 01	0.63937E 00	-0.13621E 03	-0.34662E 02
45.	-0.90227E 00	0.11326E 01	-0.11415E 03	-0.63717E 02
40.	-0.67078E 00	0.15772E 01	-0.79222E 02	-0.92082E 02
35.	-0.38410E-00	0.18924E 01	-0.38861E 02	-0.11518E 03
30.	-0.12696E-00	0.21019E 01	-0.40342E 01	-0.13368E 03
25.	0.67634E-01	0.23303E 01	0.21843E 02	-0.15406E 03
20.	0.23139E-00	0.27695E 01	0.43900E 02	-0.18835E 03
15.	0.43538E-00	0.36875E 01	0.71969E 02	-0.25540E 03
10.	0.13633E 01	0.70998E 01	0.20335E 03	-0.50884E 03

LOVE

MODE 0

PERIOD	YM/VO	YM/VO/K
350.	0.74769E 00	0.28707E 02
300.	0.70970E 00	0.27053E 02
250.	0.66408E 00	0.24731E 02
225.	0.63713E 00	0.23307E 02
200.	0.60628E 00	0.21693E 02
175.	0.57014E 00	0.19860E 02
150.	0.52657E 00	0.17756E 02
140.	0.50635E 00	0.16820E 02
130.	0.48407E-00	0.15818E 02
120.	0.45929E-00	0.14739E 02
110.	0.43142E-00	0.13569E 02
100.	0.39962E-00	0.12289E 02
90.	0.36265E-00	0.10873E 02
80.	0.31866E-00	0.92856E 01
70.	0.26483E-00	0.74794E 01
65.	0.23306E-00	0.64770E 01
60.	0.19742E-00	0.54017E 01
55.	0.15775E-00	0.42581E 01
50.	0.11489E-00	0.30736E 01
45.	0.71889E-01	0.19242E 01
40.	0.35115E-01	0.95580E 00
35.	0.11632E-01	0.32932E-00
30.	0.21534E-02	0.64397E-01
25.	0.30983E-03	0.10394E-02
20.	-0.	-0.
15.	-0.	-0.
10.	-0.	-0.

MODE 1

PERIOD	YM/VO	YM/VO/K
200.	-0.11107E-00	0.69321E 02
175.	-0.31144E-00	0.63675E 02
150.	-0.51689E 00	0.52547E 02
140.	-0.59721E 00	0.46722E 02
130.	-0.67467E 00	0.40247E 02
120.	-0.74760E 00	0.33221E 02
110.	-0.81344E 00	0.25754E 02
100.	-0.86830E 00	0.17997E 02
90.	-0.90669E 00	0.10205E 02
80.	-0.92250E 00	0.28116E 01
70.	-0.91246E 00	-0.35780E 01
65.	-0.89924E 00	-0.62178E 01
60.	-0.88379E 00	-0.84489E 01
55.	-0.87150E 00	-0.10322E 02
50.	-0.87270E 00	-0.11997E 02
45.	-0.90735E 00	-0.13825E 02
40.	-0.10138E 01	-0.16477E 02
35.	-0.12633E 01	-0.21151E 02
30.	-0.17979E 01	-0.30070E 02
25.	-0.29641E 01	-0.48335E 02
20.	-0.58244E 01	-0.90844E 02
15.	-0.14123E 02	-0.20639E 03
10.	-0.18324E 02	-0.23994E 03

MODE 2

PERIOD	YM/VO	YM/VO/K
100.	-0.93835E 00	-0.16342E 02
90.	-0.82688E 00	-0.33187E 02
80.	-0.63940E 00	-0.44412E 02
70.	-0.36358E-00	-0.49876E 02
65.	-0.18329E-00	-0.50253E 02
60.	-0.28207E-01	-0.48611E 02
55.	0.26608E-00	-0.44668E 02
50.	0.51549E 00	-0.37589E 02
45.	0.75547E 00	-0.28534E 02
40.	0.97849E 00	-0.18758E 02
35.	0.12140E 01	-0.95903E 01
30.	0.15401E 01	-0.11377E 01
25.	0.21171E 01	0.80972E 01
20.	0.33708E 01	0.22659E 02
15.	0.67445E 01	0.58248E 02
10.	0.34469E 01	0.33601E 02

MODE 3

PERIOD	YM/VO	YM/VO/K
70.	0.12847E-00	-0.67247E 02
65.	0.40898E-00	-0.59423E 02
60.	0.64254E 00	-0.45893E 02
55.	0.82167E 00	-0.29013E 02
50.	0.93395E 00	-0.10153E 02
45.	0.94389E 00	0.10222E 02
40.	0.77086E 00	0.30444E 02
35.	0.34198E-00	0.44057E 02
30.	-0.23502E-00	0.43919E 02
25.	-0.78505E 00	0.34176E 02
20.	-0.13179E 01	0.21490E 02
15.	-0.18905E 01	0.78927E 01
10.	-0.49358E-01	-0.38676E-00

TABLE 24

OCEAN

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 500 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	0.53587E-01	0.74074E 00	0.91315E 02	-0.66329E 02
300.	0.12036E-00	0.60128E 00	0.82809E 02	-0.60181E 02
250.	0.14524E-00	0.44265E-00	0.65929E 02	-0.49806E 02
225.	0.13896E-00	0.36184E-00	0.55029E 02	-0.43073E 02
200.	0.12230E-00	0.28286E-00	0.43429E 02	-0.35506E 02
175.	0.98419E-01	0.20793E-00	0.31954E 02	-0.27420E 02
150.	0.71030E-01	0.13990E-00	0.21395E 02	-0.19304E 02
140.	0.59973E-01	0.11538E-00	0.17591E 02	-0.16190E 02
130.	0.49252E-01	0.92699E-01	0.14092E 02	-0.13219E 02
120.	0.39099E-01	0.72150E-01	0.10931E 02	-0.10447E 02
110.	0.29743E-01	0.53996E-01	0.81407E 01	-0.79308E 01
100.	0.21410E-01	0.38476E-01	0.57460E 01	-0.57240E 01
90.	0.14339E-01	0.25707E-01	0.37760E 01	-0.38652E 01
80.	0.88021E-02	0.15398E-01	0.22818E 01	-0.23443E 01
70.	0.47282E-02	0.80678E-02	0.12085E 01	-0.12420E 01
65.	0.32332E-02	0.54628E-02	0.82020E 00	-0.84450E 00
60.	0.20601E-02	0.35074E-02	0.51991E 00	-0.54499E 00
55.	0.12170E-02	0.20814E-02	0.30525E-00	-0.32473E-00
50.	0.61909E-03	0.11637E-02	0.15518E-00	-0.18260E-00
45.	0.29287E-03	0.53068E-03	0.72896E-01	-0.83295E-01
40.	0.10684E-03	0.21427E-03	0.26482E-01	-0.33813E-01
35.	-0.	-0.	-0.	-0.
30.	-0.	-0.	-0.	-0.
25.	-0.	-0.	-0.	-0.
20.	-0.	-0.	-0.	-0.
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.64938E 00	-0.11662E-00	0.12857E 03	-0.40675E 01
225.	0.67797E 00	-0.36411E-00	0.11234E 03	0.11293E 02
200.	0.65815E 00	-0.65068E 00	0.87734E 02	0.32012E 02
175.	0.56584E 00	-0.97010E 00	0.51790E 02	0.58181E 02
150.	0.37638E-00	-0.12938E 01	0.30169E 01	0.89559E 02
140.	0.27429E-00	-0.14129E 01	-0.19076E 02	0.10346E 03
130.	0.16254E-00	-0.15181E 01	-0.41312E 02	0.11785E 03
120.	0.47529E-01	-0.15999E 01	-0.62267E 02	0.13198E 03
110.	-0.62988E-01	-0.16424E 01	-0.80164E 02	0.14419E 03
100.	-0.15984E-00	-0.16197E 01	-0.92826E 02	0.15144E 03
90.	-0.23145E-00	-0.14986E 01	-0.97633E 02	0.14934E 03
80.	-0.26379E-00	-0.12541E 01	-0.92036E 02	0.13348E 03
70.	-0.24754E-00	-0.91079E 00	-0.75847E 02	0.10393E 03
65.	-0.22350E-00	-0.73285E 00	-0.65186E 02	0.86672E 02
60.	-0.19302E-00	-0.57188E 00	-0.54086E 02	0.70057E 02
55.	-0.16093E-00	-0.43278E-00	-0.43614E 02	0.54807E 02
50.	-0.12907E-00	-0.32029E-00	-0.34053E 02	0.41814E 02
45.	-0.99298E-01	-0.23013E-00	-0.25621E 02	0.30874E 02
40.	-0.70623E-01	-0.16196E-00	-0.17935E 02	0.22288E 02
35.	-0.48602E-01	-0.10115E-00	-0.12092E 02	0.14204E 02
30.	-0.28689E-01	-0.57241E-01	-0.70248E 01	0.81955E 01
25.	-0.13563E-01	-0.26067E-01	-0.32706E 01	0.37991E 01
20.	-0.39654E-02	-0.83085E-02	-0.94429E 00	0.12326E 01
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	-0.65117E 00	-0.53364E 00	-0.17295E 03	0.18560E 02
100.	-0.75711E 00	-0.18935E-00	-0.17590E 03	-0.37694E-00
90.	-0.70965E 00	0.26923E-00	-0.14718E 03	-0.23607E 02
80.	-0.49463E-00	0.72881E 00	-0.87292E 02	-0.52942E 02
70.	-0.22868E-00	0.11677E 01	-0.22182E 02	-0.97292E 02
65.	-0.99637E-01	0.14044E 01	0.85318E 01	-0.12673E 03
60.	0.29895E-01	0.16254E 01	0.38393E 02	-0.15708E 03
55.	0.15398E-00	0.17561E 01	0.64986E 02	-0.17985E 03
50.	0.25072E-00	0.16909E 01	0.82348E 02	-0.18234E 03
45.	0.28645E-00	0.13668E 01	0.83089E 02	-0.15502E 03
40.	0.24604E-00	0.88584E 00	0.66120E 02	-0.10601E 03
35.	0.16497E-00	0.47228E-00	0.42217E 02	-0.59766E 02
30.	0.91263E-01	0.22047E-00	0.22615E 02	-0.29388E 02
25.	0.42250E-01	0.90601E-01	0.10233E 02	-0.12617E 02
20.	0.15760E-01	0.31165E-01	0.37490E 01	-0.44946E 01
15.	0.35396E-02	0.90008E-02	0.83229E 00	-0.13347E 01
10.	-0.	-0.	-0.	-0.

LOVE

MODE 0

PERIOD	VM/VO	VM/VO/K
350.	0.53242E 00	0.34607E 02
300.	0.46901E-00	0.31083E 02
250.	0.39862E-00	0.26545E 02
225.	0.36029E-00	0.23932E 02
200.	0.31948E-00	0.21111E 02
175.	0.27590E-00	0.18101E 02
150.	0.22935E-00	0.14928E 02
140.	0.20992E-00	0.13622E 02
130.	0.19006E-00	0.12298E 02
120.	0.16984E-00	0.10962E 02
110.	0.14934E-00	0.96204E 01
100.	0.12868E-00	0.82792E 01
90.	0.10806E-00	0.69489E 01
80.	0.87705E-01	0.56425E 01
70.	0.67946E-01	0.43777E 01
65.	0.58425E-01	0.37683E 01
60.	0.49229E-01	0.31796E 01
55.	0.40443E-01	0.26162E 01
50.	0.32163E-01	0.20840E 01
45.	0.24501E-01	0.15904E 01
40.	0.17593E-01	0.11441E 01
35.	0.11597E-01	0.75580E 00
30.	0.67086E-02	0.43691E-00
25.	0.31439E-02	0.19897E-00
20.	0.11615E-02	0.44637E-01
15.	-0.	-0.
10.	-0.	-0.

MODE 1

PERIOD	VM/VO	VM/VO/K
200.	-0.66301E 00	0.48152E 02
175.	-0.84382E 00	0.30545E 02
150.	-0.96059E 00	0.96630E 01
140.	-0.97978E 00	0.15434E 01
130.	-0.97855E 00	-0.58776E 01
120.	-0.95323E 00	-0.12245E 02
110.	-0.89995E 00	-0.17216E 02
100.	-0.81557E 00	-0.20450E 02
90.	-0.70026E 00	-0.21633E 02
80.	-0.56106E 00	-0.20608E 02
70.	-0.41344E-00	-0.17600E 02
65.	-0.34250E-00	-0.15557E 02
60.	-0.27627E-00	-0.13309E 02
55.	-0.21622E-00	-0.10981E 02
50.	-0.16325E-00	-0.86866E 01
45.	-0.11780E-00	-0.65294E 01
40.	-0.80044E-01	-0.45958E 01
35.	-0.49999E-01	-0.29583E 01
30.	-0.27567E-01	-0.16724E 01
25.	-0.12437E-01	-0.77066E 00
20.	-0.39122E-02	-0.24263E-00
15.	-0.65707E-03	-0.13997E-01
10.	-0.	-0.

MODE 2

PERIOD	VM/VO	VM/VO/K
100.	-0.38196E-01	-0.73442E 02
90.	0.36758E-00	-0.64407E 02
80.	0.71267E 00	-0.45104E 02
70.	0.96164E 00	-0.22204E 02
65.	0.10222E 01	-0.10577E 02
60.	0.10108E 01	0.29798E-00
55.	0.90696E 00	0.90926E 01
50.	0.71744E 00	0.14086E 02
45.	0.49391E-00	0.14435E 02
40.	0.29953E-00	0.11421E 02
35.	0.16104E-00	0.73524E 01
30.	0.74324E-01	0.38386E 01
25.	0.26891E-01	0.15137E 01
20.	0.62609E-02	0.37345E-00
15.	0.68457E-03	0.35386E-01
10.	-0.	-0.

MODE 3

PERIOD	VM/VO	VM/VO/K
65.	0.57840E 00	0.57864E 02
60.	0.21099E-00	0.67323E 02
55.	0.18005E-00	0.62953E 02
50.	-0.57995E 00	0.50579E 02
45.	-0.95762E 00	0.32442E 02
40.	-0.11092E 01	0.90485E 01
35.	-0.78677E 00	-0.96012E 01
30.	-0.34597E-00	-0.10773E 02
25.	-0.11725E-00	-0.52352E 01
20.	-0.28765E-01	-0.15381E 01
15.	-0.39598E-02	-0.22904E-00
10.	-0.	-0.

TABLE 25

SHIELD

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 500 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	W'1/WO	ZM/WO/K	XM/WO/K
350.	0.79192E-01	0.73509E 00	0.90623E 02	-0.65395E 02
300.	0.13922E-00	0.60660E 00	0.82052E 02	-0.59787E 02
250.	0.15886E-00	0.46257E-00	0.66114E 02	-0.50608E 02
225.	0.15193E-00	0.38780E-00	0.56034E 02	-0.44572E 02
200.	0.13548E-00	0.31254E-00	0.45233E 02	-0.37617E 02
175.	0.11176E-00	0.23829E-00	0.34303E 02	-0.29924E 02
150.	0.83590E-01	0.16755E-00	0.23672E 02	-0.21861E 02
140.	0.71835E-01	0.14100E-00	0.19989E 02	-0.18656E 02
130.	0.60150E-01	0.11589E-00	0.16335E 02	-0.15536E 02
120.	0.48823E-01	0.92471E-01	0.12959E 02	-0.12548E 02
110.	0.38081E-01	0.71172E-01	0.98964E 01	-0.97643E 01
100.	0.28221E-01	0.52298E-01	0.71921E 01	-0.72443E 01
90.	0.19340E-01	0.36369E-01	0.48606E 01	-0.50882E 01
80.	0.12261E-01	0.22835E-01	0.30292E 01	-0.32189E 01
70.	0.65177E-02	0.13036E-01	0.15989E 01	-0.18535E 01
65.	0.47841E-02	0.85202E-02	0.11515E 01	-0.12118E 01
60.	0.28952E-02	0.58444E-02	0.70001E 00	-0.83664E 00
55.	0.18341E-02	0.32372E-02	0.43534E-00	-0.46353E-00
50.	-0.	-0.	-0.	-0.
45.	-0.	-0.	-0.	-0.
40.	-0.	-0.	-0.	-0.
35.	-0.	-0.	-0.	-0.
30.	-0.	-0.	-0.	-0.
25.	-0.	-0.	-0.	-0.
20.	-0.	-0.	-0.	-0.
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.73216E 00	-0.14037E-00	0.14042E 03	-0.25387E-00
225.	0.77063E 00	-0.38981E-00	0.12805E 03	0.15173E 02
200.	0.76281E 00	-0.68294E 00	0.10773E 03	0.35319E 02
175.	0.68026E 00	-0.10152E 01	0.75809E 02	0.60374E 02
150.	0.49189E-00	-0.13632E 01	0.29260E 02	0.90656E 02
140.	0.38599E-00	-0.14977E 01	0.70014E 01	0.10449E 03
130.	0.26753E-00	-0.16238E 01	-0.16270E 02	0.11939E 03
120.	0.14265E-00	-0.17352E 01	-0.39345E 02	0.13501E 03
110.	0.18307E-01	-0.18199E 01	-0.60794E 02	0.15021E 03
100.	-0.98351E-01	-0.18567E 01	-0.78975E 02	0.16263E 03
90.	-0.19870E-00	-0.18142E 01	-0.91837E 02	0.16850E 03
80.	-0.27056E-00	-0.16561E 01	-0.96778E 02	0.16301E 03
70.	-0.29892E-00	-0.13665E 01	-0.91347E 02	0.14259E 03
65.	-0.29355E-00	-0.11838E 01	-0.84618E 02	0.12723E 03
60.	-0.27597E-00	-0.99226E 00	-0.75784E 02	0.10985E 03
55.	-0.24897E-00	-0.80702E 00	-0.65681E 02	0.91979E 02
50.	-0.21642E-00	-0.64010E 00	-0.55232E 02	0.75006E 02
45.	-0.18206E-00	-0.49756E-00	-0.45201E 02	0.59824E 02
40.	-0.14875E-00	-0.38019E-00	-0.36081E 02	0.46793E 02
35.	-0.11828E-00	-0.28580E-00	-0.28112E 02	0.35918E 02
30.	-0.91479E-01	-0.21091E-00	-0.21348E 02	0.27004E 02
25.	-0.68276E-01	-0.15126E-00	-0.15665E 02	0.19691E 02
20.	-0.47088E-01	-0.10109E-00	-0.10633E 02	0.13361E 02
15.	-0.20884E-01	-0.57466E-01	-0.46661E 01	0.77124E 01
10.	-0.	-0.	-0.	-0.

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	-0.62074E 00	-0.79702E 00	-0.16166E 03	0.29612E 02
100.	-0.79394E 00	-0.45434E-00	-0.18067E 03	0.14702E 02
90.	-0.84102E 00	-0.33695E-02	-0.17423E 03	-0.59255E 01
80.	-0.71383E 00	0.51114E 00	-0.13477E 03	-0.34591E 02
70.	-0.46260E-00	0.10174E 01	-0.74355E 02	-0.75802E 02
65.	-0.32337E-00	0.12745E 01	-0.42544E 02	-0.10286E 03
60.	-0.17950E-00	0.15335E 01	-0.10390E 02	-0.13318E 03
55.	-0.31236E-01	0.17604E 01	0.21594E 02	-0.16279E 03
50.	0.11276E-00	0.18806E 01	0.50712E 02	-0.18347E 03
45.	0.22785E-00	0.17950E 01	0.71013E 02	-0.18367E 03
40.	0.27835E-00	0.14558E 01	0.75301E 02	-0.15596E 03
35.	0.24972E-00	0.97336E 00	0.62530E 02	-0.10929E 03
30.	0.17670E-00	0.55309E 00	0.42208E 02	-0.65062E 02
25.	0.10509E-00	0.28148E-00	0.24339E 02	-0.34528E 02
20.	0.52668E-01	0.12668E-00	0.11930E 02	-0.16088E 02
15.	0.18176E-01	0.40153E-01	0.40515E 01	-0.52969E 01
10.	-0.	-0.	-0.	-0.

LOVE

MODE 0

PERIOD	VM/VO	VM/VO/K
350.	0.56804E 00	0.33915E 02
300.	0.50932E 00	0.30694E 02
250.	0.44210E-00	0.26514E 02
225.	0.40426E-00	0.24069E 02
200.	0.36278E-00	0.21385E 02
175.	0.31683E-00	0.18455E 02
150.	0.26550E-00	0.15268E 02
140.	0.24327E-00	0.13919E 02
130.	0.22000E-00	0.12528E 02
120.	0.19569E-00	0.11094E 02
110.	0.17035E-00	0.96206E 01
100.	0.14406E-00	0.81112E 01
90.	0.11700E-00	0.65744E 01
80.	0.89488E-01	0.50264E 01
70.	0.62170E-01	0.34985E 01
65.	0.48943E-01	0.27604E 01
60.	0.36337E-01	0.20566E 01
55.	0.24751E-01	0.14084E 01
50.	0.14766E-01	0.84728E 00
45.	0.71259E-02	0.41430E-00
40.	0.24399E-02	0.14471E-00
35.	0.52016E-03	0.27576E-01
30.	-0.	-0.
25.	-0.	-0.
20.	-0.	-0.
15.	-0.	-0.
10.	-0.	-0.

MODE 1

PERIOD	VM/VO	VM/VO/K
200.	-0.62447E 00	0.51517E 02
175.	-0.80335E 00	0.34945E 02
150.	-0.92700E 00	0.15255E 02
140.	-0.95323E 00	0.74757E 01
130.	-0.96226E 00	0.19604E-00
120.	-0.95074E 00	-0.63086E 01
110.	-0.91461E 00	-0.11764E 02
100.	-0.84948E 00	-0.15864E 02
90.	-0.75231E 00	-0.18263E 02
80.	-0.62490E 00	-0.18643E 02
70.	-0.47826E-00	-0.16932E 02
65.	-0.40401E-00	-0.15417E 02
60.	-0.33331E-00	-0.13616E 02
55.	-0.26923E-00	-0.11692E 02
50.	-0.21458E-00	-0.98337E 01
45.	-0.17163E-00	-0.82340E 01
40.	-0.14167E-00	-0.70527E 01
35.	-0.12389E-00	-0.63411E 01
30.	-0.11455E-00	-0.59790E 01
25.	-0.10748E-00	-0.56862E 01
20.	-0.94075E-01	-0.50097E 01
15.	-0.60748E-01	-0.32874E 01
10.	-0.	-0.

MODE 2

PERIOD	VM/VO	VM/VO/K
100.	-0.13522E-00	-0.71181E 02
90.	-0.22718E-00	-0.64461E 02
80.	0.55845E 00	-0.48499E 02
70.	0.83781E 00	-0.28182E 02
65.	0.94172E 00	-0.17277E 02
60.	0.10009E 01	-0.63944E 01
55.	0.99316E 00	0.36358E 01
50.	0.90362E 00	0.11478E 02
45.	0.74480E 00	0.15775E 02
40.	0.56196E 00	0.16295E 02
35.	0.40120E-00	0.14334E 02
30.	0.27984E-00	0.11501E 02
25.	0.19170E-00	0.86564E 01
20.	0.12306E-00	0.59292E 01
15.	0.60884E-01	0.30602E 01
10.	0.31415E-02	0.50178E-01

MODE 3

PERIOD	VM/VO	VM/VO/K
70.	0.85387E 00	0.24493E 02
65.	0.67543E 00	0.47701E 02
60.	0.40391E-00	0.59306E 02
55.	0.72132E-01	0.60457E 02
50.	-0.30494E-00	0.53504E 02
45.	-0.71178E 00	0.39878E 02
40.	-0.10513E 01	0.19722E 02
35.	-0.10896E 01	-0.26297E 01
30.	-0.77506E 00	-0.14565E 02
25.	-0.42679E-00	-0.13323E 02
20.	-0.18973E-00	-0.75303E 01
15.	-0.54904E-01	-0.24912E 01
10.	-0.	-0.

TABLE 26

OCEAN

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 700 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	0.80791E-01	0.55999E 00	0.91782E 02	-0.79247E 02
300.	0.10373E-00	0.39388E-00	0.74344E 02	-0.62755E 02
250.	0.92237E-01	0.23281E-00	0.49872E 02	-0.41846E 02
225.	0.75882E-01	0.16477E-00	0.37052E 02	-0.31265E 02
200.	0.56430E-01	0.10848E-00	0.25304E 02	-0.21581E 02
175.	0.37208E-01	0.64843E-01	0.15509E 02	-0.13419E 02
150.	0.20942E-01	0.33818E-01	0.81880E 01	-0.72187E 01
140.	0.15687E-01	0.24753E-01	0.59896E 01	-0.53334E 01
130.	0.11270E-01	0.17369E-01	0.42059E 01	-0.37748E 01
120.	0.76724E-02	0.11641E-01	0.27996E 01	-0.25437E 01
110.	0.48778E-02	0.75248E-02	0.17239E 01	-0.16253E 01
100.	0.16393E-02	0.60827E-02	0.70169E 00	-0.12898E 01
90.	-0.	-0.	-0.	-0.
80.	-0.	-0.	-0.	-0.
70.	-0.	-0.	-0.	-0.
65.	-0.	-0.	-0.	-0.
60.	-0.	-0.	-0.	-0.
55.	-0.	-0.	-0.	-0.
50.	-0.	-0.	-0.	-0.
45.	-0.	-0.	-0.	-0.
40.	-0.	-0.	-0.	-0.
35.	-0.	-0.	-0.	-0.
30.	-0.	-0.	-0.	-0.
25.	-0.	-0.	-0.	-0.
20.	-0.	-0.	-0.	-0.
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.48769E-00	-0.52213E 00	0.97014E 02	0.35943E 02
225.	0.44189E-00	-0.75504E 00	0.61777E 02	0.64254E 02
200.	0.35334E-00	-0.98103E 00	0.18093E 02	0.97391E 02
175.	0.20888E-00	-0.11547E 01	-0.33874E 02	0.13007E 03
150.	0.13125E-01	-0.11998E 01	-0.86980E 02	0.15232E 03
140.	-0.68086E-01	-0.11656E 01	-0.10434E 03	0.15540E 03
130.	-0.14084E-00	-0.10990E 01	-0.11673E 03	0.15397E 03
120.	-0.19693E-00	-0.10009E 01	-0.12222E 03	0.14731E 03
110.	-0.22896E-00	-0.87268E 00	-0.11927E 03	0.13466E 03
100.	-0.23161E-00	-0.71527E 00	-0.10701E 03	0.11538E 03
90.	-0.20303E-00	-0.53280E 00	-0.85754E 02	0.89560E 02
80.	-0.14818E-00	-0.34091E-00	-0.58248E 02	0.59571E 02
70.	-0.84434E-01	-0.17273E-00	-0.31197E 02	0.31357E 02
65.	-0.56929E-01	-0.11057E-00	-0.20464E 02	0.20447E 02
60.	-0.35039E-01	-0.69985E-01	-0.12113E 02	0.12843E 02
55.	-0.20454E-01	-0.36367E-01	-0.70051E 01	0.69518E 01
50.	-0.10820E-01	-0.18601E-01	-0.36294E 01	0.36025E 01
45.	-0.51493E-02	-0.86521E-02	-0.16958E 01	0.16928E 01
40.	-0.	-0.	-0.	-0.
35.	-0.	-0.	-0.	-0.
30.	-0.	-0.	-0.	-0.
25.	-0.	-0.	-0.	-0.
20.	-0.	-0.	-0.	-0.
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	-0.75845E 00	0.86794E 00	-0.17301E 03	-0.86465E 02
100.	-0.61825E 00	0.12170E 01	-0.11013E 03	-0.13044E 03
90.	-0.33567E-00	0.12946E 01	-0.25067E 02	-0.14966E 03
80.	-0.16633E-01	0.10399E 01	0.49461E 02	-0.13337E 03
70.	0.15310E-00	0.75514E 00	0.78997E 02	-0.10985E 03
65.	0.18509E-00	0.65966E 00	0.81518E 02	-0.10105E 03
60.	0.19332E-00	0.56981E 00	0.78090E 02	-0.90874E 02
55.	0.17738E-00	0.46116E-00	0.67682E 02	-0.75891E 02
50.	0.13660E-00	0.32331E-00	0.49904E 02	-0.54609E 02
45.	0.80721E-01	0.17612E-00	0.28402E 02	-0.30494E 02
40.	0.32911E-01	0.66309E-01	0.11179E 02	-0.11794E 02
35.	0.88585E-02	0.16596E-01	0.29130E 01	-0.30368E 01
30.	0.16187E-02	0.27803E-02	0.51533E 00	-0.52231E 00
25.	-0.	-0.	-0.	-0.
20.	-0.	-0.	-0.	-0.
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

LOVE

MODE 0

PERIOD	VM/VO	YM/VO/K
350.	0.34099E-00	0.33321E 02
300.	0.26985E-00	0.27668E 02
250.	0.19901E-00	0.21124E 02
225.	0.16441E-00	0.17658E 02
200.	0.13083E-00	0.14163E 02
175.	0.98802E-01	0.10737E 02
150.	0.69122E-01	0.75085E 01
140.	0.58152E-01	0.63074E 01
130.	0.47830E-01	0.51758E 01
120.	0.38261E-01	0.41271E 01
110.	0.29559E-01	0.31751E 01
100.	0.21839E-01	0.23338E 01
90.	0.15222E-01	0.16161E 01
80.	0.98056E-02	0.10327E 01
70.	0.56519E-02	0.58982E 00
65.	0.40661E-02	0.41989E-00
60.	0.27674E-02	0.28525E-00
55.	0.17759E-02	0.18115E-00
50.	0.10805E-02	0.10348E-00
45.	0.65351E-03	0.47749E-01
40.	0.43393E-03	0.10490E-01
35.	-0.	-0.
30.	-0.	-0.
25.	-0.	-0.
20.	-0.	-0.
15.	-0.	-0.
10.	-0.	-0.

MODE 1

PERIOD	VM/VO	YM/VO/K
200.	-0.91118E 00	0.10947E 02
175.	-0.92460E 00	-0.13812E 02
150.	-0.82312E 00	-0.32177E 02
140.	-0.75195E 00	-0.35895E 02
130.	-0.66615E 00	-0.37071E 02
120.	-0.56834E 00	-0.35679E 02
110.	-0.46178E-00	-0.31922E 02
100.	-0.35124E-00	-0.26256E 02
90.	-0.24397E-00	-0.19453E 02
80.	-0.14980E-00	-0.12603E 02
70.	-0.78210E-01	-0.68760E 01
65.	-0.52419E-01	-0.46939E 01
60.	-0.33075E-01	-0.30088E 01
55.	-0.19424E-01	-0.17904E 01
50.	-0.10445E-01	-0.97252E 00
45.	-0.50141E-02	-0.47017E-00
40.	-0.20967E-02	-0.19243E-00
35.	-0.74209E-03	-0.60662E-01
30.	-0.	-0.
25.	-0.	-0.
20.	-0.	-0.
15.	-0.	-0.
10.	-0.	-0.

MODE 2

PERIOD	VM/VO	YM/VO/K
100.	0.90430E 00	-0.27914E 02
90.	0.97337E 00	0.73719E 01
80.	0.88376E 00	0.29968E 02
70.	0.71296E 00	0.36655E 02
65.	0.59757E 00	0.34527E 02
60.	0.46013E-00	0.29045E 02
55.	0.30962E-00	0.21017E 02
50.	0.17085E-00	0.12377E 02
45.	0.73439E-01	0.56536E 01
40.	0.24226E-01	0.19687E 01
35.	0.60391E-02	0.51198E 00
30.	0.10938E-02	0.88441E-01
25.	0.20514E-03	0.16757E-02
20.	-0.	-0.
15.	-0.	-0.
10.	-0.	-0.

MODE 3

PERIOD	VM/VO	YM/VO/K
65.	-0.90667E 00	0.25259E 02
60.	-0.98426E 00	-0.74936E 01
55.	-0.91833E 00	-0.28055E 02
50.	-0.81731E 00	-0.37217E 02
45.	-0.68503E 00	-0.37752E 02
40.	-0.44949E-00	-0.27693E 02
35.	-0.15353E-00	-0.10392E 02
30.	-0.21186E-01	-0.15876E 01
25.	-0.15639E-02	-0.11541E-00
20.	-0.	-0.
15.	-0.	-0.
10.	-0.	-0.

TABLE 27

SHIELD

DISPLACEMENT AND STRESS RATIOS AT A DEPTH OF 700 KM

RAYLEIGH

MODE 1,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
350.	0.98352E-01	0.54339E 00	0.90442E 02	-0.75646E 02
300.	0.11762E-00	0.38801E-00	0.73311E 02	-0.60099E 02
250.	0.10348E-00	0.24030E-00	0.50203E 02	-0.41134E 02
225.	0.86474E-01	0.17661E-00	0.38167E 02	-0.31531E 02
200.	0.66207E-01	0.12196E-00	0.26943E 02	-0.22552E 02
175.	0.45543E-01	0.77308E-01	0.17260E 02	-0.14699E 02
150.	0.27142E-01	0.43309E-01	0.96533E 01	-0.84020E 01
140.	0.20922E-01	0.32718E-01	0.72677E 01	-0.63854E 01
130.	0.15480E-01	0.23894E-01	0.52573E 01	-0.46816E 01
120.	0.10935E-01	0.16634E-01	0.36331E 01	-0.32698E 01
110.	0.72138E-02	0.11176E-01	0.23377E 01	-0.21823E 01
100.	0.44285E-02	0.73423E-02	0.13558E 01	-0.13756E 01
90.	-0.	-0.	-0.	-0.
80.	-0.	-0.	-0.	-0.
70.	-0.	-0.	-0.	-0.
65.	-0.	-0.	-0.	-0.
60.	-0.	-0.	-0.	-0.
55.	-0.	-0.	-0.	-0.
50.	-0.	-0.	-0.	-0.
45.	-0.	-0.	-0.	-0.
40.	-0.	-0.	-0.	-0.
35.	-0.	-0.	-0.	-0.
30.	-0.	-0.	-0.	-0.
25.	-0.	-0.	-0.	-0.
20.	-0.	-0.	-0.	-0.
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

MODE 2,1

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
250.	0.55888E 00	-0.59987E-00	0.10525E 03	0.41815E 02
225.	0.51923E 00	-0.85064E 00	0.72500E 02	0.71028E 02
200.	0.43019E-00	-0.11002E 01	0.29883E 02	0.10471E 03
175.	0.27220E-00	-0.13006E 01	-0.23487E 02	0.13787E 03
150.	0.43721E-01	-0.13704E 01	-0.81789E 02	0.16096E 03
140.	-0.55686E-01	-0.13440E 01	-0.10237E 03	0.16472E 03
130.	-0.14795E-00	-0.12842E 01	-0.11846E 03	0.16441E 03
120.	-0.22321E-00	-0.11933E 01	-0.12798E 03	0.15954E 03
110.	-0.27274E-00	-0.10730E 01	-0.12930E 03	0.14955E 03
100.	-0.29029E-00	-0.92286E 00	-0.12140E 03	0.13367E 03
90.	-0.27269E-00	-0.74202E 00	-0.10414E 03	0.11126E 03
80.	-0.22170E-00	-0.53580E 00	-0.78870E 02	0.82907E 02
70.	-0.14863E-00	-0.32667E-00	-0.49868E 02	0.52069E 02
65.	-0.11089E-00	-0.23387E-00	-0.36254E 02	0.37826E 02
60.	-0.76963E-01	-0.15632E-00	-0.24568E 02	0.25651E 02
55.	-0.49428E-01	-0.97055E-01	-0.15436E 02	0.16151E 02
50.	-0.29240E-01	-0.55747E-01	-0.89506E 01	0.93992E 01
45.	-0.15791E-01	-0.29450E-01	-0.47485E 01	0.50240E 01
40.	-0.77198E-02	-0.13975E-01	-0.22814E 01	0.24082E 01
35.	-0.32115E-02	-0.59589E-02	-0.93869E 00	0.10353E 01
30.	-0.37885E-03	-0.33994E-02	-0.14165E-00	0.59397E 00
25.	-0.18987E-03	-0.70233E-03	-0.57799E-01	0.12366E-00
20.	-0.	-0.	-0.	-0.
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

MODE 1,2

PERIOD	UM/WO	WM/WO	ZM/WO/K	XM/WO/K
110.	-0.83546E 00	0.72285E 00	-0.19091E 03	-0.67834E 02
100.	-0.72151E 00	0.11582E 01	-0.13617E 03	-0.11569E 03
90.	-0.45222E-00	0.13943E 01	-0.54464E 02	-0.14797E 03
80.	-0.99843E-01	0.13047E 01	-0.30138E 02	-0.14955E 03
70.	0.14567E-00	0.10282E 01	0.77155E 02	-0.13041E 03
65.	0.20293E-00	0.90328E 00	0.84586E 02	-0.12033E 03
60.	0.22741E-00	0.78896E 00	0.84528E 02	-0.10960E 03
55.	0.22412E-00	0.66679E 00	0.77769E 02	-0.95852E 02
50.	0.19363E-00	0.51914E 00	0.64057E 02	-0.76751E 02
45.	0.13943E-00	0.34557E-00	0.44444E 02	-0.52359E 02
40.	0.76754E-01	0.17772E-00	0.23707E 02	-0.27582E 02
35.	0.29479E-01	0.63909E-01	0.88523E 01	-0.10176E 02
30.	0.75772E-02	0.15498E-01	0.22207E 01	-0.25337E 01
25.	0.12324E-02	0.25357E-02	0.35539E-00	-0.42777E-00
20.	-0.	-0.	-0.	-0.
15.	-0.	-0.	-0.	-0.
10.	-0.	-0.	-0.	-0.

LOVE

MODE 0

PERIOD	VM/VO	VM/VO/K
350.	0.37046E-00	0.33785E 02
300.	0.30189E-00	0.28488E 02
250.	0.23118E-00	0.22247E 02
225.	0.19531E-00	0.18865E 02
200.	0.15934E-00	0.15379E 02
175.	0.12365E-00	0.11870E 02
150.	0.88945E-01	0.84495E 01
140.	0.75609E-01	0.71420E 01
130.	0.62756E-01	0.58892E 01
120.	0.50538E-01	0.47074E 01
110.	0.39139E-01	0.36152E 01
100.	0.28776E-01	0.26335E 01
90.	0.19693E-01	0.17840E 01
80.	0.12147E-01	0.10887E 01
70.	0.63811E-02	0.56527E 00
65.	0.42157E-02	0.37171E-00
60.	0.25496E-02	0.22269E-00
55.	0.13787E-02	0.11550E-00
50.	0.61625E-03	0.49204E-01
45.	0.20976E-03	0.15055E-01
40.	0.64321E-04	0.12991E-02
35.	-0.	-0.
30.	-0.	-0.
25.	-0.	-0.
20.	-0.	-0.
15.	-0.	-0.
10.	-0.	-0.

MODE 1

PERIOD	VM/VO	VM/VO/K
200.	-0.90381E 00	0.12705E 02
175.	-0.92400E 00	-0.10839E 02
150.	-0.83958E 00	-0.28257E 02
140.	-0.77770E 00	-0.31998E 02
130.	-0.70161E 00	-0.33541E 02
120.	-0.61279E 00	-0.32868E 02
110.	-0.51309E 00	-0.30107E 02
100.	-0.40550E-00	-0.25556E 02
90.	-0.29540E-00	-0.19733E 02
80.	-0.19177E-00	-0.13452E 02
70.	-0.10621E-00	-0.77706E 01
65.	-0.73333E-01	-0.54674E 01
60.	-0.47766E-01	-0.36239E 01
55.	-0.29202E-01	-0.22508E 01
50.	-0.16723E-01	-0.13069E 01
45.	-0.90089E-02	-0.71229E 00
40.	-0.46347E-02	-0.36706E-00
35.	-0.23491E-02	-0.17349E-00
30.	-0.14049E-02	-0.49810E-01
25.	-0.	-0.
20.	-0.	-0.
15.	-0.	-0.
10.	-0.	-0.

MODE 2

PERIOD	VM/VO	VM/VO/K
100.	0.85873E 00	-0.30470E 02
90.	0.94224E 00	0.43474E-00
80.	0.88850E 00	0.21326E 02
70.	0.75225E 00	0.29741E 02
65.	0.65538E 00	0.29619E 02
60.	0.53694E 00	0.26793E 02
55.	0.40010E-00	0.21603E 02
50.	0.25926E-00	0.14986E 02
45.	0.13966E-00	0.85991E 01
40.	0.61239E-01	0.39996E 01
35.	0.22032E-01	0.15147E 01
30.	0.66967E-02	0.46259E-00
25.	0.18001E-02	0.82783E-01
20.	-0.	-0.
15.	-0.	-0.
10.	-0.	-0.

MODE 3

PERIOD	VM/VO	VM/VO/K
70.	-0.53836E 00	0.56947E 02
65.	-0.84470E 00	0.30817E 02
60.	-0.96640E 00	0.43336E 01
55.	-0.96225E 00	-0.15256E 02
50.	-0.88867E 00	-0.26466E 02
45.	-0.76593E 00	-0.30207E 02
40.	-0.56550E 00	-0.26198E 02
35.	-0.28699E-00	-0.14941E 02
30.	-0.78171E-01	-0.45415E 01
25.	-0.11522E-01	-0.73815E 00
20.	-0.12987E-02	-0.32781E-01
15.	-0.	-0.
10.	-0.	-0.

of first higher mode to fundamental mode are displayed in Figures 9 and 10 for Rayleigh and Love waves, respectively. Figure 11 shows the ratio of the second higher mode to the fundamental Rayleigh mode. The ratio zeros and infinities for this double-couple orientation are determined by the nodal periods in horizontal displacement at the source depth. Thus the spectra of each higher mode has one more zero than the next lower mode. For a given mode the displacement zeros migrate downward in depth with increasing period. Therefore successively deeper sources have spectral zeros at successively longer periods.

Even though all the spectral ratios shown in Figures 8 to 11 have nodes and infinities which are sensitive to the source depth, the most promising is the fundamental Rayleigh to Love ratio. The easily identified large amplitudes of fundamental surface waves in the time domain are important to taking meaningful spectral ratios. The interference of similar signals can cause spectral holes which, along with spectral zeros due to source time history and finiteness, make identification of the source depth mini

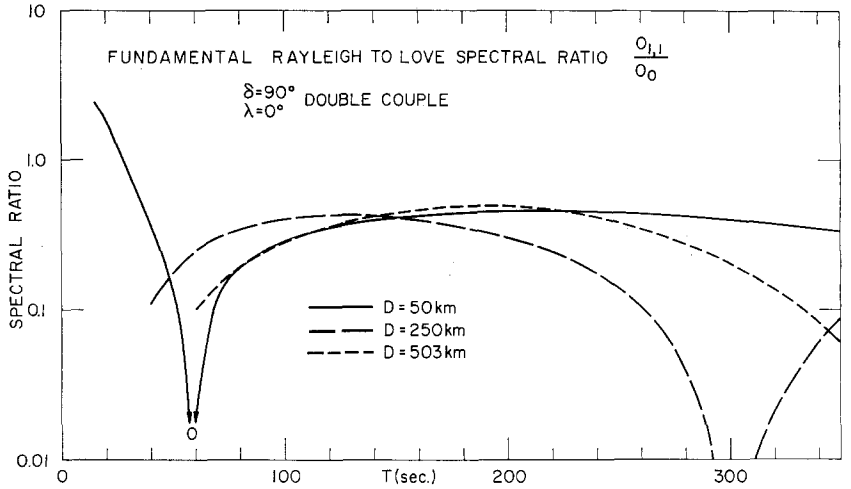

FIG. 8. Spectral ratio (Rayleigh fundamental-mode/Love fundamental-mode) for a double couple at several values of depth in an oceanic model.

mum improbable. If there is enough energy in the observed fundamental Love wave, the minimums in Love spectra will be due to interferences, such as multipath arrivals, and source time and finiteness functions. Thus ratios should not be formed at periods for which there is a lower power level in the Love-wave spectrum.

The ratio minima are dependent on the fault orientation parameters of dip, δ and slip, λ, as well as source depth. The ratio of fundamental Rayleigh to Love has a true node at all azimuths only for fault models, (δ, λ) of (90°, 0°) and (90°, 180°). The (45°, 90°) and (45°, 270°) faults can have true nodes at azimuthal angles from the strike of θ = 45°, 135°, 225°, and 315°.

The nodal period as a function of source depth for the vertical pure strike-slip fault model, (90°, 0°), is shown in Figure 12. For the oceanic and shield Earth structures, the relation between period and source depth is almost linear down to depths of 150 km. A rough estimate of the source depth can be obtained by equating the depth in kilometers to the nodal period in seconds. For a homogeneous Poisson solid half-space, the relation between source depth, h, and the nodal period is given by

$$h = (0.19) \times (CT)$$

(Ben-Menahem and Toksöz, 1963). The ratio of source depth to this critical wavelength, $\lambda_c = CT$, versus source depth is shown in Figure 13 for the two models.

Figure 14 illustrates the effects of varying the fault geometry parameters (δ, λ). For changes in dip and slip of less than 10° from the vertical pure strike-slip fault (90°, 0°). the minimum near 60 sec is recognizable and essentially stable. However, at an observer azimuth of $\theta = 22.5°$ a change of 15° in δ or λ can virtually eliminate the mini-

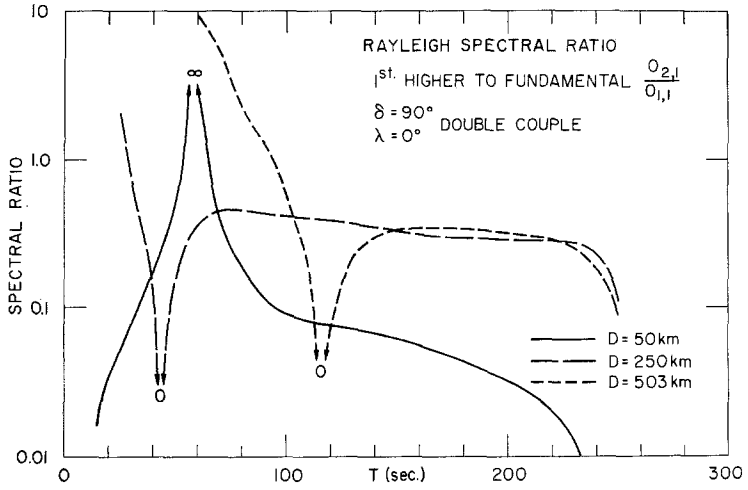

FIG. 9. Spectral ratio (Rayleigh first-mode/Rayleigh fundamental-mode) for a double couple at several values of depth in an oceanic model.

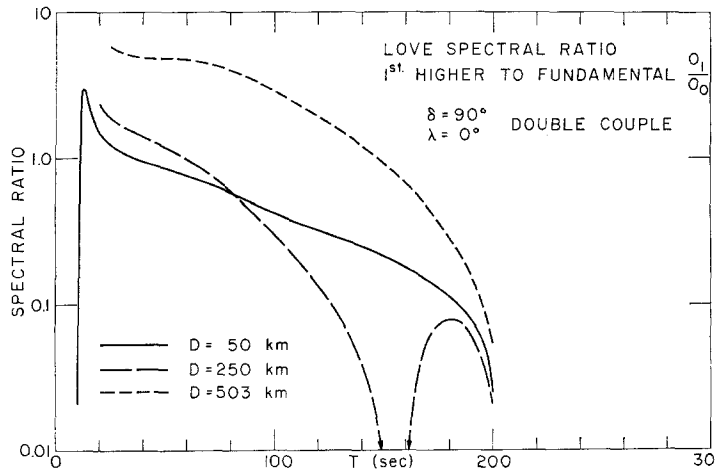

FIG. 10. Spectral ratio (Love first-mode/Love fundamental-mode) for a double couple at several values of depth in an oceanic model.

mum. On the other hand, at an azimuth of 30°, the spectral ratio has an easily identified minimum at 60 sec for the (75°, 15°) model. Another complicating factor, then, is that the minimums are sensitive to azimuth. It should also be remembered that these are spectral ratio minimums. Except for geometries where the minima are near zero, their presence may not be evident in either the Rayleigh or the Love spectra until the ratio has been formed.

The complications inherent in these spectral techniques can be demonstrated by

considering the magnitude 5.2 Fallon earthquake of July 20 1962 (Toksöz *et al.*, 1965). The fundamental Rayleigh and Love spectra measured at Ruth, Nevada, are shown in Figure 15. Taking their spectral ratio, R_z/L, we obtain a minimum near 26 sec which corresponds to focal depth of 20 km for a vertical strike-slip fault (90°, 0°)

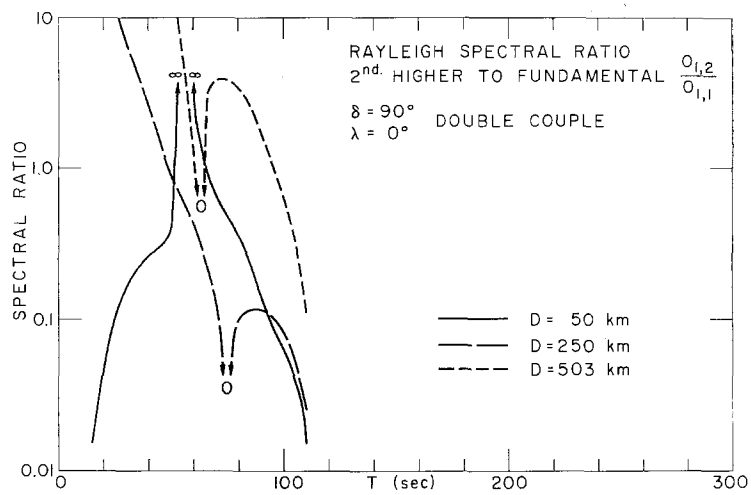

FIG. 11. Spectral ratio (Rayleigh second-mode/Rayleigh fundamental-mode) for a double couple at several values of depth in an oceanic model.

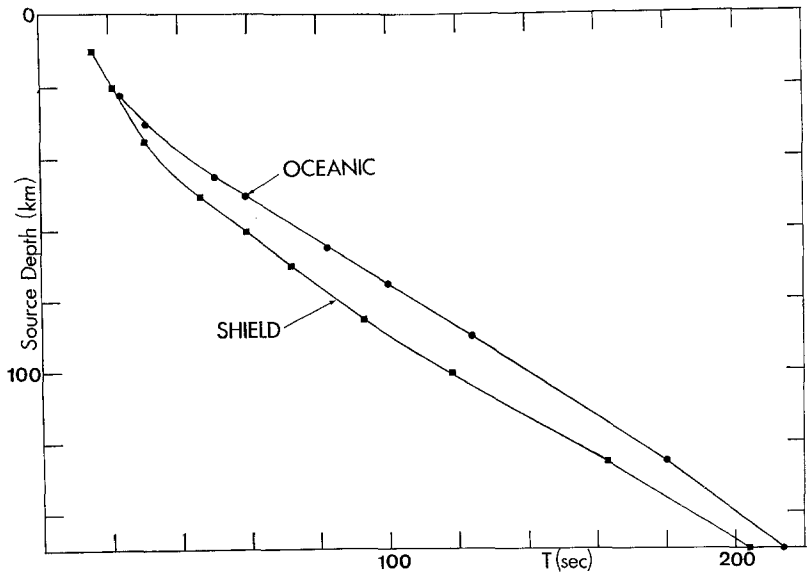

FIG. 12. Periods of spectral ratio minimums (Rayleigh fundamental-mode/Love fundamental-mode) versus source depth of a double couple in an oceanic and shield model.

and a Fallon-to-Ruth propagation path (Figure 16). The minimum is also apparent in the observed R_z.

The depth is the same as that obtained in Toksöz *et al.* (1965) by comparing the observed and theoretical spectra for the surface waves at Ruth, Pasadena and Jamestown. As in Tsai (1969), the assumed source-time variation was a step function. In order to fit the observed spectra at these stations, they required a fault orientation of

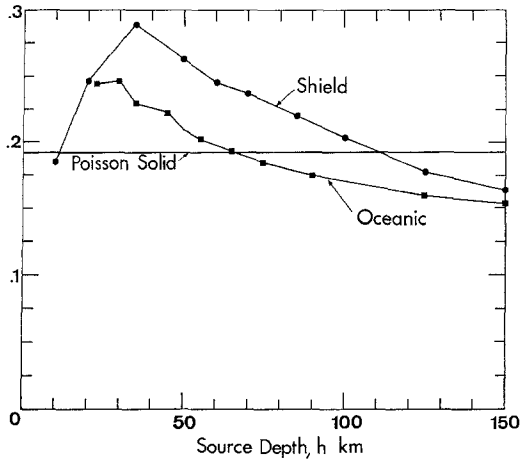

FIG. 13. Ratio of source depth to critical wavelength for the two earth models and a Poisson solid.

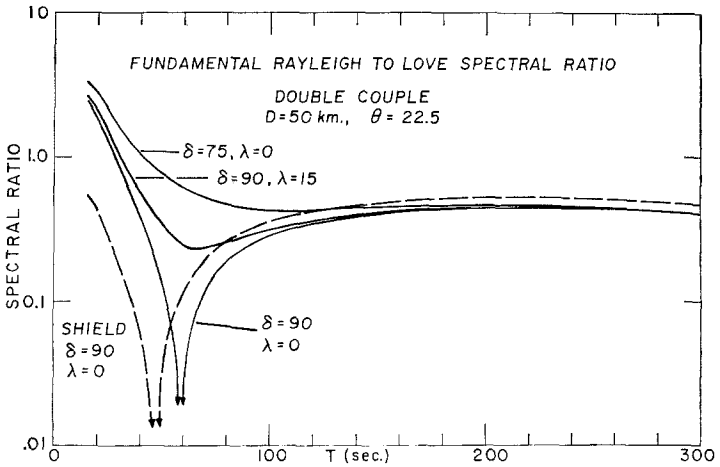

FIG. 14. Spectral ratio (Rayleigh fundamental-mode/Love fundamental-mode) for a double couple at selected fault orientations in an oceanic model.

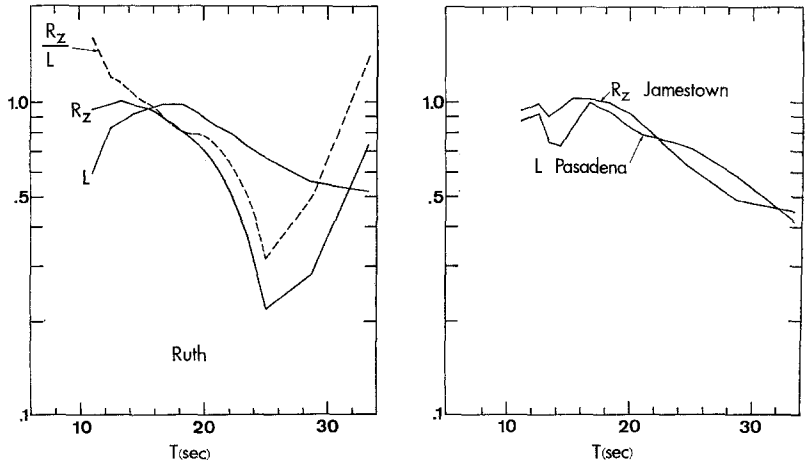

FIG. 15. Observed ground displacement spectra of Rayleigh and Love waves for the July 20 1962 Fallon earthquake.

(76°, 230°) and a strike azimuth of 355°. This corresponds to an azimuthal angle from the strike of $\theta = 100°$ at Ruth. The (90°, 0°) faults at a depth of 20 and 26 km require a $\theta = 50° - 55°$ or $\theta = 125° - 130°$ at Ruth in order to obtain a reasonable spectral ratio (Figure 16). This results in an unacceptable theoretical spectral ratio at Jamestown which is two orders of magnitude less than observed there. The spectral ratios for their (76°, 230°) fault have barely perceptible minima only at θ near 40° and 145°. There are no minima in R_z at any azimuth for periods less than 40 sec.

The fault orientation was determined from a three-station fit of a radiation pattern of the Love- to Rayleigh-wave peak amplitudes ($T = 16$ sec). Flinn, Lambert and Archambeau (1970), using the Fallon earthquake Rayleigh and Love waves recorded at 17 LRSM stations, found that the radiation pattern for the 16-sec ratio could be fit best by a 20-km-depth (82°, 196°) fault plane with a strike azimuth of 10°. Since the radiation pattern of the ratio at a given period is relatively insensitive to source depth, the 20-km source depth was determined from the individual Love and Rayleigh radia-

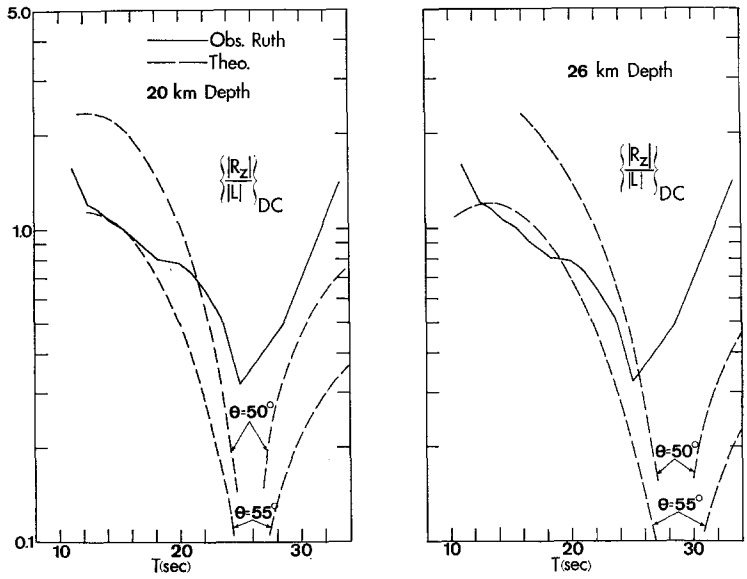

FIG. 16. Theoretical and observed spectral ratios at Ruth for two depths and azimuths.

tion patterns at various frequencies. The shapes of these individual patterns also admit a fault orientation of (82°, 174°) (Flinn *et al.*, 1970).

The spectral ratios at selected azimuths for the two LRSM determined fault solutions are shown in Figure 17 with the observed Ruth ratio. Again we cannot fit the Ruth data ($\theta = 85°$) without violating the strike azimuth. The range of azimuth in which there is a detectable minimum in the R_z/L ratio and in R_z for a step function source are shown in Figure 18 for the LRSM fault solutions. In the same figure, we show the 16-sec Love to Rayleigh radiation patterns.

Another piece of evidence that the fault strike azimuth is within 15° of North as in Toksöz *et al.* (1965) and Flinn *et al.* (1970) can be found in the small dips in the absolute spectra of the Jamestown and Pasadena stations (Figure 15). Assuming that the Fallon event was due to a rupture moving to the North with a uniform velocity of 2.2 km/sec along a fault segment of length 20 km, these dips can be explained as the first minimums of the source propagation factor (Ben-Menahem, 1960). This factor would cause a minimum in the Rayleigh- and Love-wave spectra at just below the 10-sec

period at Ruth, at 14 sec at Pasadena, and at 12 to 14 sec at Jamestown. The minimum necessary length of 20 km is considered large for an earthquake of this magnitude (King and Knopoff, 1968). On the other hand, the shallowness of the minima can be explained by the rupture strength being much smaller at the ends of the fault relative to the center (Ben-Menahem and Toksöz, 1962). Thus the effective length contributing

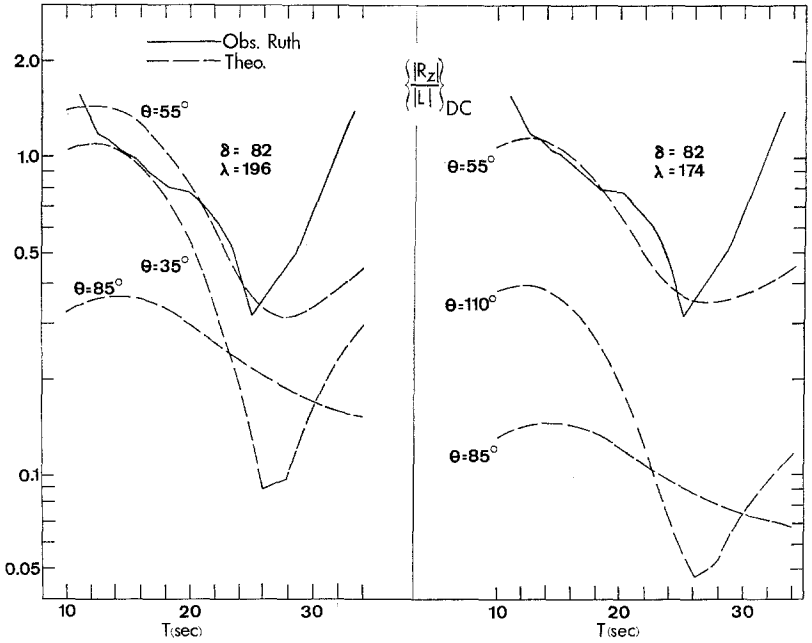

FIG. 17. Theoretical and observed spectral ratios at Ruth for two fault orientations and three azimuths for a 20-km source depth.

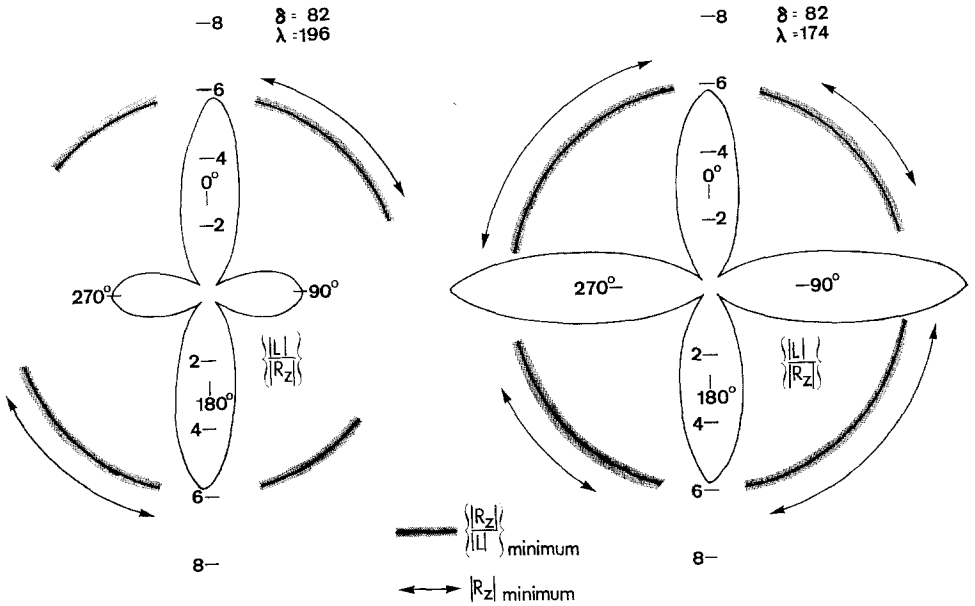

FIG. 18. Radiation patterns and ranges of azimuth with detectable spectral minimums for two LRSM determined fault solutions.

most of the seismic energy could be much smaller and the spectra would still have the same minimal locations found in Figure 15.

Unless the solutions obtained from the three Caltech and the 17 LRSM stations are incorrect or can be shifted in strike azimuth a minimum of 25° to the east, the dip in the Ruth, Nevada, Rayleigh spectrum and the Rayleigh to Love spectra ratio at 26 sec must be due to mechanisms other than source depth (Toksöz *et al.*, 1965).

Conclusions

The tables of Rayleigh and Love displacement-stress or eigenvectors presented in this paper can be linearly combined for point sources or integrated for volume sources to calculate the spectra of surface waves. As an example of their use, spectral ratios were formed for various fault models in order to determine the feasibility of using spectral minimums or "holes" for source depth determinations.

For the minimum associated with the fundamental Rayleigh wave, the following conclusions can be made.

(1) The period for the spectral minimum is strongly dependent on fault slip, strike and station azimuth as well as source depth.

(2) For the vertical, pure strike-slip fault, a rough estimate of source depth in kilometers is given by the nodal periods in seconds.

(3) The fault orientation must be known from independent determinations in order to obtain the source depth.

The necessity of determining the fault orientation was demonstrated by the Fallon earthquake. If a vertical strike-slip fault had been assumed for this event, the minimum measured at Ruth, Nevada, would have corresponded to a depth equal to the USCGS reported depth. However, using fault solutions obtained from the spectra at other stations, it was found that the minimum was not related to the source depth.

Considering the difficulties and the sources of possible spectral contamination, it is hard to visualize spectral ratios playing an important role in the determination of focal mechanisms except for events where there is consistent and adequate station coverage, high signal-to-noise levels, and some supplementary information on the fault and propagation path.

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Appendix I

Compound Matrix Elements

Expressions for the compound layer matrix are

$$a_{11} = a_{66} = -2\gamma(\gamma - 1) + (2\gamma^2 - 2\gamma + 1)CP \cdot CQ - \gamma^2 STP \cdot STQ - (\gamma^2 - 1)SDP \cdot SDQ$$

$$a_{12} = a_{56} = i(\rho c^2)^{-1}[CP \cdot SDQ + CQ \cdot STP]$$

$$a_{13} = a_{14} = a_{36} = -(\rho c^2)^{-1}[(2\gamma - 1)(1 - CP \cdot CQ) + (\gamma - 1)SDP \cdot SDQ + \gamma STP \cdot STQ]$$

$$= a_{46}$$

$$a_{15} = a_{26} = -i(\rho c^2)^{-1}[CQ \cdot SDP + CP \cdot STQ]$$

$$a_{16} = (\rho c^2)^{-2}[2(1 - CP \cdot CQ) + STP \cdot STQ + SDP \cdot SDQ]$$

$$a_{21} = a_{65} = i(\rho c^2)[(\gamma - 1)^2 CQSDP + \gamma^2 CPSTQ]$$

$$a_{22} = a_{55} = CP \cdot CQ$$

$$a_{23} = a_{24} = a_{35} = a_{45} = i[(\gamma - 1)CQ \cdot SDP + \gamma CP \cdot STQ]$$

$$a_{25} = SDP \cdot STQ$$

$$a_{31} = a_{41} = a_{63} = (\rho c^2)[\gamma(\gamma - 1)(2\gamma - 1)(1 - CP \cdot CQ) + (\gamma - 1)^3 SDP \cdot SDQ + \gamma^3 STP \cdot STQ]$$

$$= a_{64}$$

$$a_{32} = a_{42} = -i[(\gamma - 1)CP \cdot SDQ + \gamma CQ \cdot STP]$$

$$= a_{53} = a_{54}$$

$$a_{33} = a_{44} = 1 + 2\gamma(\gamma - 1)(1 - CP \cdot (Q) + (\gamma - 1)^2 SDPSDQ + \gamma^2 STPSTQ$$

$$a_{34} = a_{33} - 1 = a_{43}$$

$$a_{51} = a_{62} = -i(\rho c^2)[(\gamma - 1)^2 CP \cdot SDQ + \gamma^2 CQSTP]$$

$$a_{52} = STP \cdot SDQ$$

$$a_{61} = (\rho c^2)^2[2\gamma^2(\gamma - 1)^2(1 - CP \cdot CQ) + (\gamma - 1)^4 SDP \cdot SDQ + \gamma^4 STP \cdot STQ]$$

where

$$CP = \cos(kr_\alpha d), \quad CQ = \cos(kr_\beta d)$$

$$STP = r_\alpha \sin(kr_\alpha d), \quad STQ = r_\beta \sin(kr_\beta d)$$

$$SDP = \frac{\sin(kr_\alpha d)}{r_\alpha} \quad SDQ = \frac{\sin(kr_\beta d)}{r_\beta}$$

$$\gamma = 2\left(\frac{\beta}{c}\right)^2$$

and the layer m subscript has been suppressed in the notation.

Combining the product matrix with its inverse as given in Harkrider (1964), we have the following identities for the compound product matrix, a.

$$a_{13} \equiv a_{14} \qquad a_{31} \equiv a_{41}$$

$$a_{23} \equiv a_{24} \qquad a_{32} \equiv a_{42}$$

$$a_{33} \equiv a_{34} + 1 \qquad a_{33} \equiv a_{43} + 1$$

$$a_{43} \equiv a_{44} - 1 \qquad a_{34} \equiv a_{44} - 1$$

$$a_{53} \equiv a_{54} \qquad a_{35} \equiv a_{45}$$

$$a_{63} \equiv a_{64} \qquad a_{36} \equiv a_{46}$$

$$a_{33} \equiv a_{44}$$

$$a_{34} \equiv a_{43}$$

and from the definition.

$$a_{26} \equiv a_{15}\,, \quad a_{35} \equiv a_{23}\,, \quad a_{36} \equiv a_{13}\,, \quad a_{53} \equiv a_{32}\,, \quad a_{55} \equiv a_{22}\,, \quad a_{56} \equiv a_{12}\,,$$
$$a_{62} \equiv a_{51}\,, \quad a_{63} \equiv a_{31}\,, \quad a_{65} \equiv a_{21}\,, \text{ and } \quad a_{66} \equiv a_{11}$$

Appendix II

Long-period limits

Using the limits of the Thomson-Haskell matrices at long periods, we obtain the following Love-wave limits for $c > 0$ as ω and $k \to 0$

$$F_L \equiv -(A_L)^*_{21} - \mu_n r^*_{\beta n}(A_L)_{11} = 0$$
$$F_L \to -k \sum_{j=1}^{n-1} \mu_j r^2_{\beta j} d_j - \mu_n r^*_{\beta n} \to \mu_n \left(1 - \frac{c^2}{\beta_n{}^2}\right)^{1/2}$$

thus
$$c \to \beta_n \tag{1}$$

$$\frac{\partial F_L}{\partial k} \to -\sum_{j=1}^{n-1} \mu_j \left(1 + \frac{c^2}{\beta_j{}^2}\right) d_j - \mu_n \frac{c^2}{\beta_n{}^2} \frac{1}{k r^*_{\beta n}}$$
$$\frac{\partial F_L}{\partial \omega} \to -2 \sum_{j=1}^{n-1} c \rho_j d_j + \mu_n \frac{c}{\beta_n{}^2} \frac{1}{k r^*_{\beta n}}$$

thus

$$U = -\left(\frac{\partial F_L}{\partial k}\right) \Big/ \left(\frac{\partial F_L}{\partial \omega}\right) \to c \to \beta_n\,, \tag{2}$$

and

$$\underline{A}_L = \frac{1}{(A_L)_{11} \dfrac{\partial F_L}{\partial k}} \to -k \frac{r^*_{\beta n}}{\mu_n}$$
$$\to -\frac{\mu_p}{\mu_n{}^2} h_p \left(1 - \frac{\beta_n{}^2}{\beta_p{}^2}\right) k^2$$
$$\to O(k^2) \tag{3}$$

since $F_L = 0$ implies from above that

$$\mu_n r^*_{\beta n} \to -k \sum_{j=1}^{n-1} \mu_j r^2_{\beta j} d_j = -k h_p \mu_p \left(\frac{c^2}{\beta_p{}^2} - 1\right)$$

where

$$h_p \equiv \sum_{j=1}^{n-1} h_j\,, \quad \beta_p{}^2 \equiv \frac{\mu_p}{\rho_p}\,, \quad \mu_p \equiv \sum_{j=1}^{n-1} \mu_j d_j / h_p$$

and

$$\rho_p \equiv \sum_{j=1}^{n-1} \rho_j d_j / h_p$$

The summation over j is from layer 1 to layer $n - 1$, with n denoting the solid half-space.

The p subscript was used above because for Love waves in a multilayered free plate

$$F_L \equiv (A_L)_{21}^* = 0$$

and at long periods

$$(A_L)_{21}^* \to k \sum_{j=1}^{n-1} \mu_j r_{\beta j}^2 d_j \to -kh_p \mu_p \left(1 - \frac{c^2}{\beta_p^2}\right),$$

thus $F_L = 0$ can be satisfied by $c = \beta_p$ for small k.

For Rayleigh waves for an all solid model as ω and $k \to 0$

$$\begin{aligned} F_R &= NK + L^*M^* = 0 \\ F_R &\to -[(\gamma_n - 1)^2 + \gamma_n^2 r_{\alpha n} r_{\beta n}] \\ \frac{\dot{u}_0^*}{\dot{w}_0} &= \frac{K}{L^*} \to \frac{(\gamma_n - 1)}{\gamma_n r_{\alpha n}^*} \\ GN^* - L^*H &\to -\frac{r_{\alpha n}^*}{\rho_n c^2} \end{aligned} \tag{4}$$

where

$$\gamma_n = 2\left(\frac{\beta_n}{c}\right)^2$$

thus $F_R = 0$ implies $c \to V_{Rn}$: the root of Rayleigh's equation (4),

$$\begin{aligned} \frac{\partial F_R}{\partial k} &\to \frac{4}{k}\left\{(\gamma_n - 1) + \frac{\beta_n^2 \gamma_n^2}{C^2 \alpha_n^2} \frac{[2C^2 - \alpha_n^2 - \beta_n^2]}{(\gamma_n - 1)^2}\right\} \\ \frac{\partial F_R}{\partial \omega} &\to \frac{1}{C} \frac{\partial F_R}{\partial k} \end{aligned}$$

thus

$$U = -\left(\frac{\partial F_R}{\partial k}\right) \Big/ \left(\frac{\partial F_R}{\partial \omega}\right) \to C \to V_{Rn} \tag{5}$$

and

$$\underline{A}_R = \frac{[G^*N - L^*H]}{\left(\frac{\partial F_R}{\partial k}\right)}$$

thus

$$\begin{aligned} \underline{A}_R &\to \frac{r_{\alpha n}^*}{4\rho_n V_{Rn}^2 \left\{(\gamma_n - 1) + \frac{\beta_n^2}{V_{Rn}^2} \frac{\gamma_n^2}{\alpha_n^2} \frac{[2V_{Rn}^2 - \alpha_n^2 - \beta_n^2]}{(\gamma_n - 1)^2}\right\}} \cdot k \\ &\to O(k). \end{aligned} \tag{6}$$

For Rayleigh waves in a multilayered free plate

$$F_R = [A_{32}^* A_{41}^* + A_{31} A_{42}]$$

$$F_R \to k^2 C^4 \sum_{j=1}^{n-1} \rho_j d_j \cdot \sum_{j=1}^{n-1} \rho_j \left[1 - 2\gamma_j \left(1 - \frac{\beta_j^2}{\alpha_j^2}\right)\right] d_j ,$$

retaining first order terms as $k \to 0$, thus $F_R = 0$ can be satisfied by a c such that

$$\sum_{j=1}^{n-1} \rho_j \left[1 - 2\gamma_j \left(1 - \frac{\beta_j^2}{\alpha_j^2}\right)\right] d_j = 0$$

for small k; i.e.

$$c^2 = \frac{\sum_{j=1}^{n-1} \rho_j V_{pj}^2 d_j}{\sum_{j=1}^{n-1} \rho_j d_j}$$

where

$$V_{pj}^2 = 4\beta_j^2 \left(1 - \frac{\beta_j^2}{\alpha_j^2}\right).$$

Appendix III

Short-period limits

At short periods, the relations for Love waves in a multilayered half-space reduce to those for Love waves in the top layer over a half-space with second layer properties. Thus as $k \to \infty$

$$F_L \to -\mu_1 r_{\beta 1} \sin Q_1 - \mu_2 r_{\beta 2}^* \cos Q_1 = 0$$

and as $c \to \beta_1$

$$kd_1 \to \frac{(2m+1)}{2} \pi [(c/\beta_1)^2 - 1]^{-1/2} \to \infty ,$$

$$\frac{\partial F_L}{\partial k} \to \left[\mu_1 d_1 + \mu_2 \left(1 - \frac{\beta_1^2}{\beta_2^2}\right)^{1/2} k d_1^2\right] \frac{2}{(2m+1)\pi}$$

$$\frac{\partial F_L}{\partial \omega} \to -\left[\mu_1 \frac{d_1}{\beta_1} + \mu_2 \left(1 - \frac{\beta_1^2}{\beta_2^2}\right)^{1/2} \frac{k d_1^2}{\beta_1}\right] \frac{2}{(2m+1)\pi}$$

thus

$$U = -\left(\frac{\partial F_L}{\partial k}\right) \Big/ \left(\frac{\partial F_L}{\partial \omega}\right) \to \beta_1$$

and

$$A_L \to \frac{1}{\mu_1 d_1}.$$

For Rayleigh waves, the multilayered solid half-space reduces to a half-space of the top-layer properties and the short-period limits are the same as the long-period limits in Appendix II with the subscript 1 replacing the n.

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